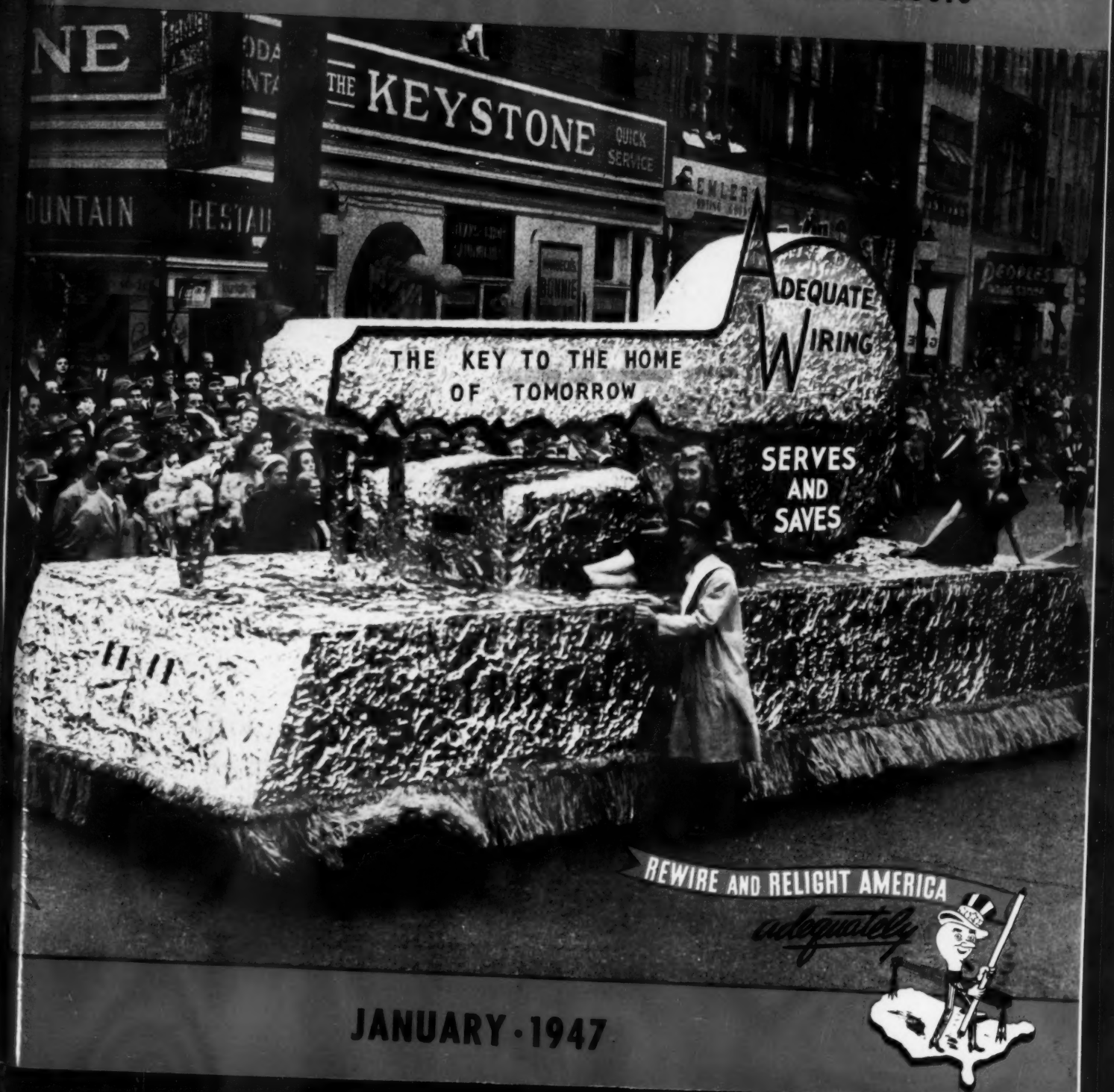
BUSINESS & FINANCE

ELECTRICAL WHOLESALING

FORMERLY WHOLESALER'S SALESMAN

THE NATIONAL MAGAZINE FOR SALESMEN OF ELECTRICAL PRODUCTS

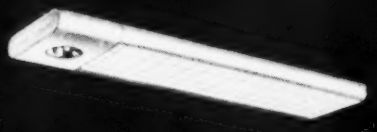


JANUARY · 1947

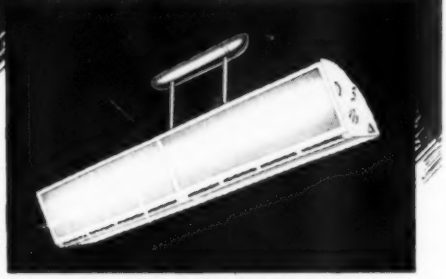
LOOK TO Leader FOR PRECISION ENGINEERING

Look at the various models of Leader Fluorescent Luminaires, from any angle. You'll readily see that every Leader fixture is engineered to exacting standards, for simple, easy installation and for years of trouble-free service.

Leader Trofferlite TG-240 . . . The ideal fixture both for remodeling or for new construction, as ceiling can actually be hung from the units. For use as single units or in continuous runs. Available with or without glass panels or louvers.



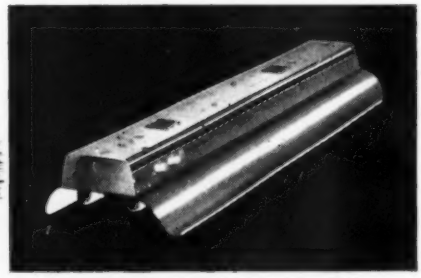
Leader Officer VL-440, with adjustable Direclite... A striking example of Leader's advanced modern design. Wafer thin. High gloss white enamel louvers give maximum soft light diffusion. Direclite, for "spotlight" merchandising.



Leader Glass Enclosed Unit GL-440 . . . Brings luxury lighting within the reach of all! Ribbed glass construction with moderate diffusing louver for plenty of soft, pleasing light. Excellent for schools, stores, offices.

Leader's advanced engineering features make certain *correct* installation for every lighting need. For example, Leader Trofferlites give the appearance and performance of a custom built installation through the use of standard fixtures. Yes, Precision Engineering contributes much to the popularity of Leader Luminaires with "Big Business" as well as "Little Business" all over America. So, for latest lighting techniques, simple installation, and easy maintenance, Look to Leader.

Only better electric wholesalers have Leader franchises. There is a Leader representative in your area.



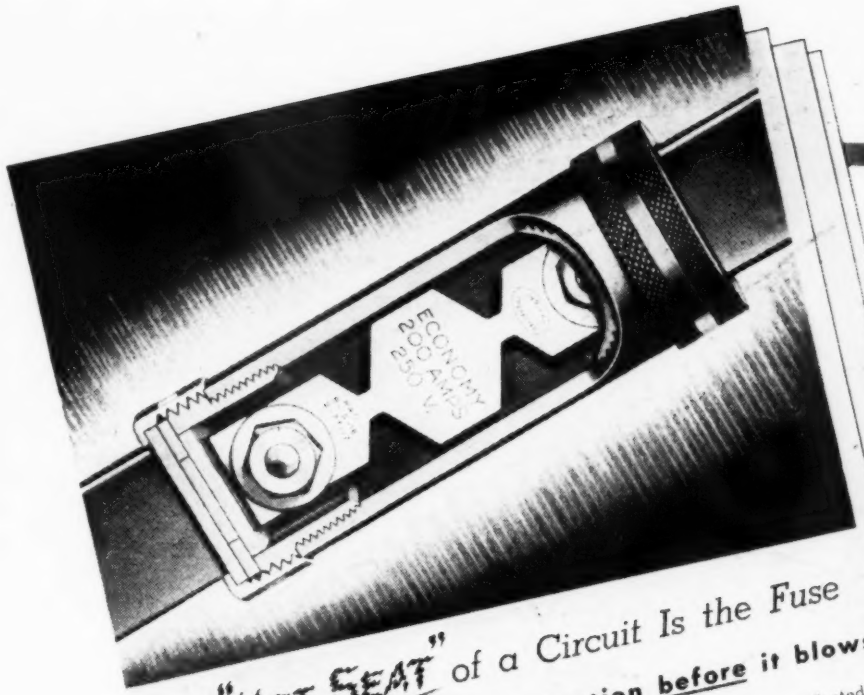
Leader Stratoliner IUO-240 . . . A durable, heavy duty industrial unit. Excellent for continuous runs. Easily installed; eliminates all installation "extras."

LEADER ELECTRIC MANUFACTURING CORP.

6127 N. BROADWAY, CHICAGO 40, ILL.

WEST COAST FACTORY
2040 LIVINGSTON ST., OAKLAND 6, CALIF.

BUSINESS AND COMMERCE DIVISION
JAN 2 9 1947



The "HOT SEAT" of a Circuit Is the Fuse

It must give FULL LIMIT protection before it blows!

The fuse is the "hot seat" of a circuit, responsible for stopping the current "cold," when electrical equipment is menaced by shorts or overloads

ECONOMY Fuses, with "Drop Out" Renewal Links, give *full limit* protection before they blow—eliminating costly, needless current interruptions

Pioneer in fuse invention and development, ECONOMY has constantly improved the quality, performance and the dependability of Time-Tested ECONOMY Fuses and "Drop Out" Renewal Links.

Protection with ECONOMY

Cartridge Type
0-600 Amperes—250 Volts
0-600 Amperes—600 Volts

Plug Type
0-30 Amperes—125 Volts

Protection WITH ECONOMY

Time-Tested • Reliable • Safe

ECONOMY Fuse and Mfg Co.

2717 N. Greenview Ave. Chicago, Illinois

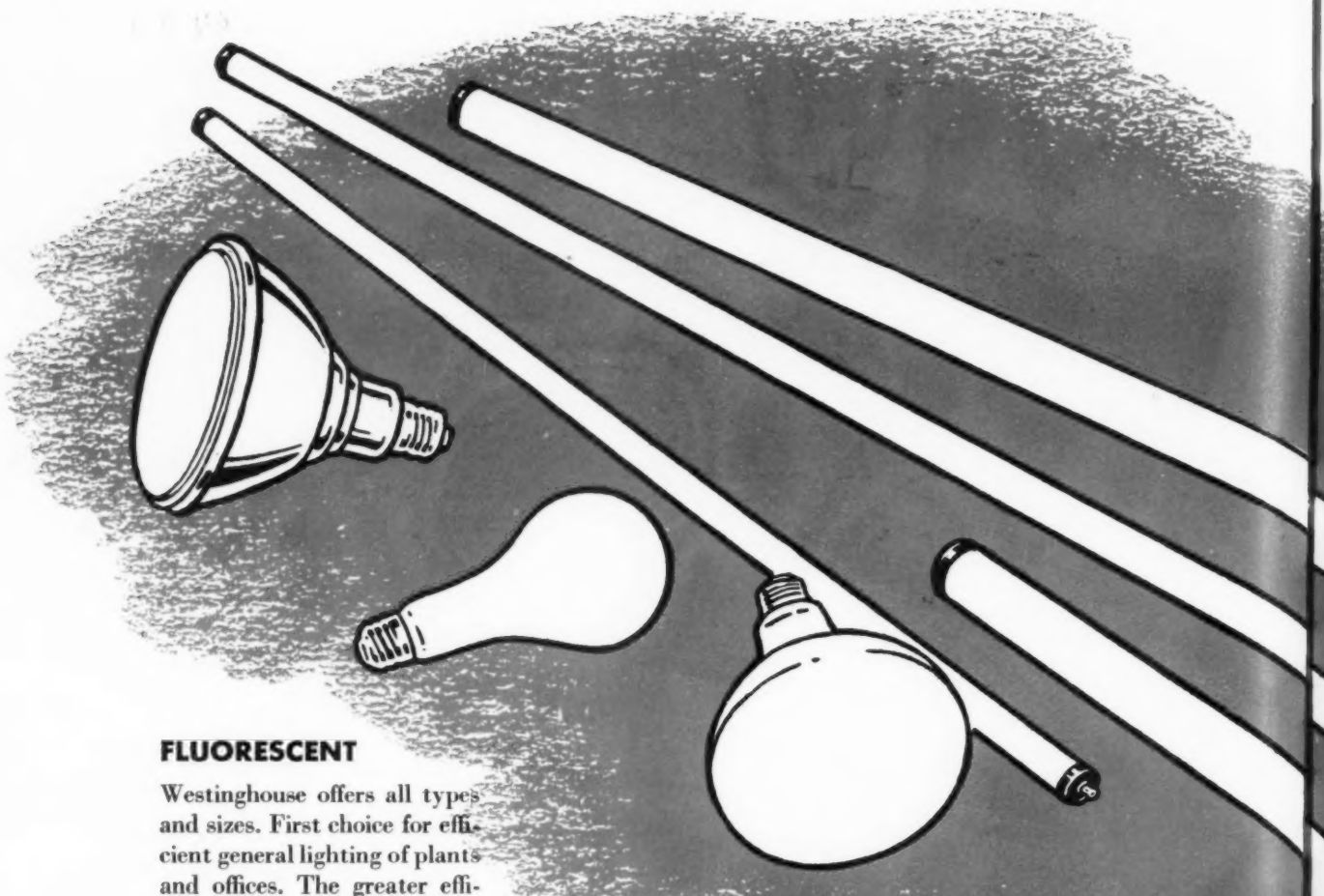
ECONOMY Leadership is maintained by a constantly growing demand

• Above is a reduction of one of the Full Page Advertisements which is reaching over 200,000 men who specify or buy fuses.

● There's no *"hot seat"* for jobbers who stock Economy fuses, because they're catering to an established demand—a demand being pushed steadily higher by nation-wide advertisements like the one above, bringing Economy to the attention of more than 200,000 men who buy and specify fuses. For over 34 years leading wholesalers have found Economy's jobber policy eminently satisfactory. You, too, can forge ahead with Economy!

ECONOMY Fuse and Mfg Co.

2717 N. Greenview Ave. Chicago, Illinois



FLUORESCENT

Westinghouse offers all types and sizes. First choice for efficient general lighting of plants and offices. The greater efficiency of fluorescent lamps makes possible the higher intensities of light needed for more productive working conditions.

MERCURY VAPOR

These Westinghouse lamps are excellent for general plant lighting when the lamps must be installed in high bays and for critical inspection when color distinction is not a factor. High light output per watt makes these lamps efficient to use.

INCANDESCENT

General service lamps up to 1500 watts serve most industrial applications. Westinghouse Projector and Reflector lamps are a simple, convenient means of supplying a directed or a spread beam of light where it is needed.

INFRARED

Available in types and sizes up to 1000 watts, Westinghouse infrared lamps are proving to be the simple, convenient, and economical source of heat for many baking, drying, and heating processes today.

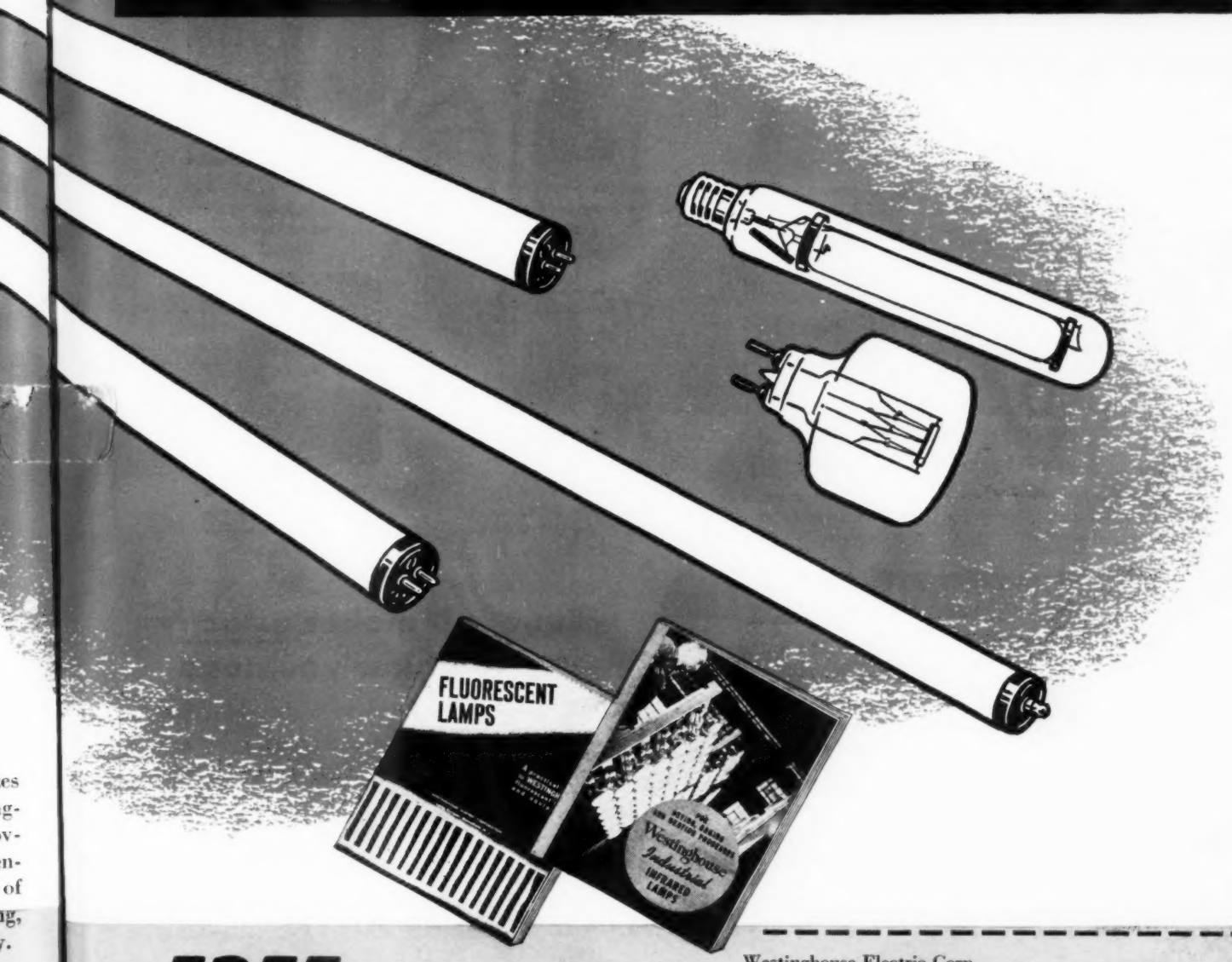
Westinghouse

PLANTS IN 25 CITIES — OFFICES EVERYWHERE

LAMPS FOR SEE-ABILITY

Westinghouse Lamps

FOR EVERY INDUSTRIAL REQUIREMENT



FREE INFRARED AND FLUORESCENT LAMP BOOKLETS

Send today for either or both of these new information booklets. Check and mail the coupon below. Westinghouse Electric Corporation, Lamp Division, Bloomfield, N. J.

Westinghouse Electric Corp.
Lamp Division, Bloomfield, N. J.

Please send me the publication checked below:

..... "Industrial Infrared Lamps," Form A-3817

..... "Fluorescent Lamps," Form A-4759

Name.....

Address.....

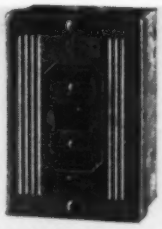
City..... State.....

EW-1

Wherever you need...
OVERCURRENT PROTECTION

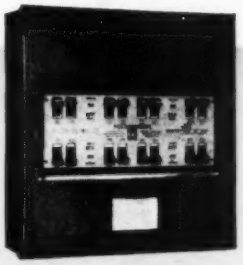
You save time and money with Square D Circuit Breakers

Weatherproof, Dust-Tight and Explosion-Resisting Circuit Breakers.



MO Multi-breaker for use on small machines.

Industrial Circuit Breakers in standard sheet steel enclosures.

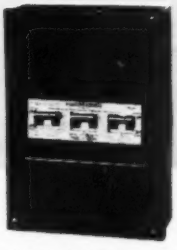


Multi-breaker Load Centers for controlling and protecting lighting and small power circuits.

Rain-tight Multi-breakers with a variety of circuit arrangements.

Industrial Multi-breakers in capacities from 15 to 100 amperes, with 2 or 3 poles.

Multi-breaker Load Centers in Cast Iron Enclosures for Class 1, Group D and lower applications.



Multi-breaker Type M Load Centers with 50 ampere frame breakers for applications involving 120-240 volt AC circuits.

HERE'S HOW YOU SAVE TIME...

1 *Harmless momentary overloads pass without breaking the circuit, due to a time-lag feature built into every Square D Circuit Breaker.*

2 *Restoration of service is quick and easy. No replacing of fuses. A simple movement of the operating lever restores current after the cause of the short or overload has been eliminated.*

HERE'S HOW YOU SAVE MONEY...

1 *Fuses are eliminated—no replacement of parts is necessary.*

2 *Electrical equipment has constant proper protection, because every Square D Circuit Breaker unit is factory-sealed and consequently tamper-proof.*

Square D makes exactly the Breaker you need

• Square D's *complete* line enables you to select exactly the right device for any given installation. A wide variety of enclosures, including general-purpose, raintight, dust-resisting, and explosion-resisting. Capacities range from 15 to 600 amperes, up to 600 volts. Send for INDUSTRIAL CIRCUIT BREAKER BULLETIN which illustrates and describes the complete line.

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

ELECTRICAL WHOLESALING

FORMERLY *Wholesaler's Salesman*

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CHANGE OF ADDRESS

Director of Circulation, Electrical Wholesaling
330 West 42nd Street, New York 18, N. Y.

Please change the address of my Electrical Wholesaling subscription.

*Name*_____

*Old Address*_____

*New Address*_____

*New Company Connection*_____

*New Title or Position*_____

FAST TURNOVER with IDEAL WIRING DEVICES

IDEAL Wiring Devices are sure-fire, fast turnover Products—which have enjoyed an increasing demand—built up by quality standards and a consistent 30-year advertising program together with intensive sales work.

This increasing demand is zooming to new heights with the construction and modernization of homes, factories, public and institutional buildings; and when conditions permit, the deferred needs of maintenance, repairs, alterations and extensions to existing installations must be satisfied.

A few of these popular Products are illustrated:

IDEAL "B-X" Armor Cutter Pocket Size Tool
IDEAL "E-Z" Hand Type Wire Stripper—Two models "Automatic" and "Standard"
IDEAL Fish Tape, Reel and Puller—Three Tools in one
IDEAL "Safe-T-Grip" Fuse Puller

Also —
Joist Boring Machine, Split Bolt and Service Entrance Connectors, "Wire-Nuts," Lugs (Solder and Solderless), Fuse Reducers, "Test-Glo," Test-lite and Fuse Puller, Fuse Clip Clamps.

Here's the way our Jobber Policy backs up Cooperating Wholesalers:

1. All our advertisements and direct mail display the statement shown below.
2. Inquiries received at our General or Branch Offices are forwarded to Cooperating Wholesalers.
3. Orders sent direct to Ideal because of our extensive advertising are likewise referred to Wholesalers.
4. Over 200 Service Engineers are available to assist you in opening and closing sales.
5. Envelope stuffers, bulletins and many other sales helps are available to you.

Distributed Through
AMERICA'S LEADING WHOLESALERS

1499 RR

IDEAL

IDEAL INDUSTRIES, Inc.

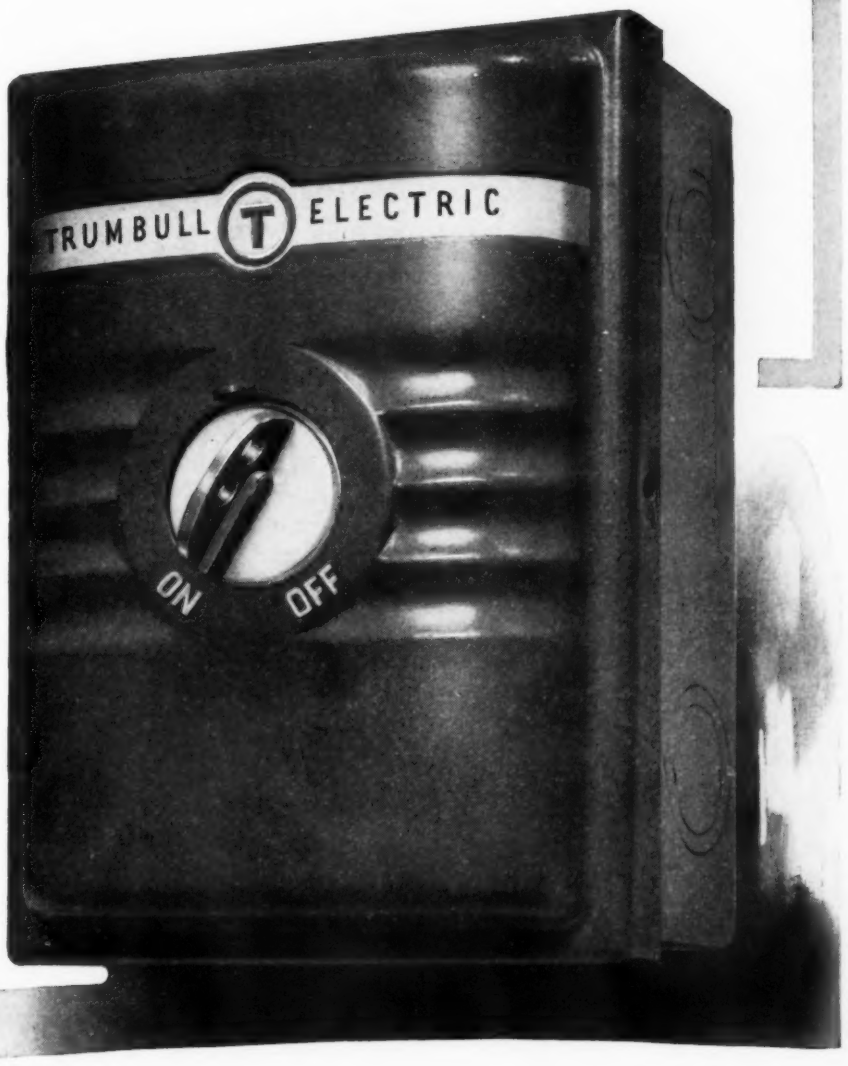
(Successor to Ideal Commutator Dresser Co.)

1047 PARK AVENUE **SYCAMORE, ILLINOIS**

"LET'S TAKE THE SIMPLE, INEXPENSIVE TYPE D SWITCH • • AND MAKE IT BETTER THAN IT HAS EVER BEEN MADE BEFORE"

In just those words more than a year ago, a Trumbull team of design and production engineers set to work to give the Electrical Industry's basic low-cost enclosed switch "the works". How well they have succeeded is for YOU to decide. But we know in advance what your verdict must be. For, not only is this an outstanding example of American postwar ingenuity in making a product far superior in quality and performance at low cost . . . it is also the handsomest, simplest, most easily wired, sturdiest and best engineered Type D Switch you have seen . . . or we either.

Now coming off our new streamlined production lines mighty fast. Place your orders, Gentlemen!



- *Front* operated.
- Locking provision in "off" position.
- Straight through wiring.
- Back mounted.
- More wiring space.
- Switch unit removable.
- Very compact.

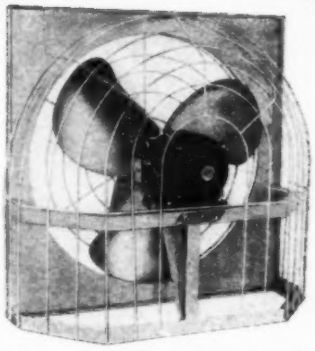
THE TRUMBULL ELECTRIC MANUFACTURING COMPANY

PLAINVILLE, CONNECTICUT

OTHER FACTORIES AT NORWOOD, OHIO • SAN FRANCISCO • LOS ANGELES • SEATTLE

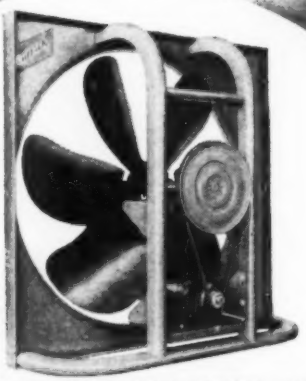
CHELSEA FANS & BLOWERS

...provide clean, fresh circulated air...



TYPE AA — FOR FOOD FREEZER, MEAT PACKING & STORAGE PLANTS

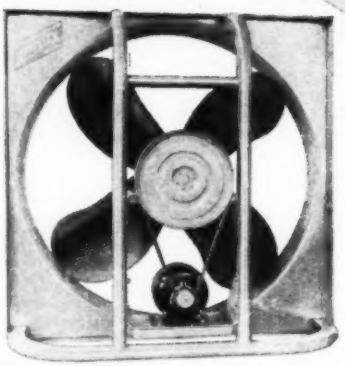
High air moving capacities . . . Dependable, economical, ball bearing, totally enclosed motors . . . Ratings up to 4800 CFM . . . Front and rear guarded.



TYPE IND — FOR FACTORIES, LOFTS, SPORTS ARENAS, LARGE AREAS

Heavy duty ventilators for air blast action . . . Rugged construction . . . High efficiency ratings to operate against static pressures. Ball bearing motors and drives.

Winter or summer, Chelsea ventilating units help make the day's activity more comfortable, more healthful, more profitable. User acceptance of these efficient air movers is a direct result of Chelsea design and range of models . . . a fitness for the job that makes every Chelsea fan deliver extra measures of satisfactory operation. Featured in most models are rugged, all-steel construction . . . dynamically balanced blades . . . efficient, cool-running motors and drives . . . rubber cushioned moving parts . . . Get the details on the Chelsea line NOW. Chelsea fans are in great demand; early orders mean early deliveries!



TYPE ED — FOR HOMES, SCHOOLS, CHURCHES, HOSPITALS, INSTITUTIONS

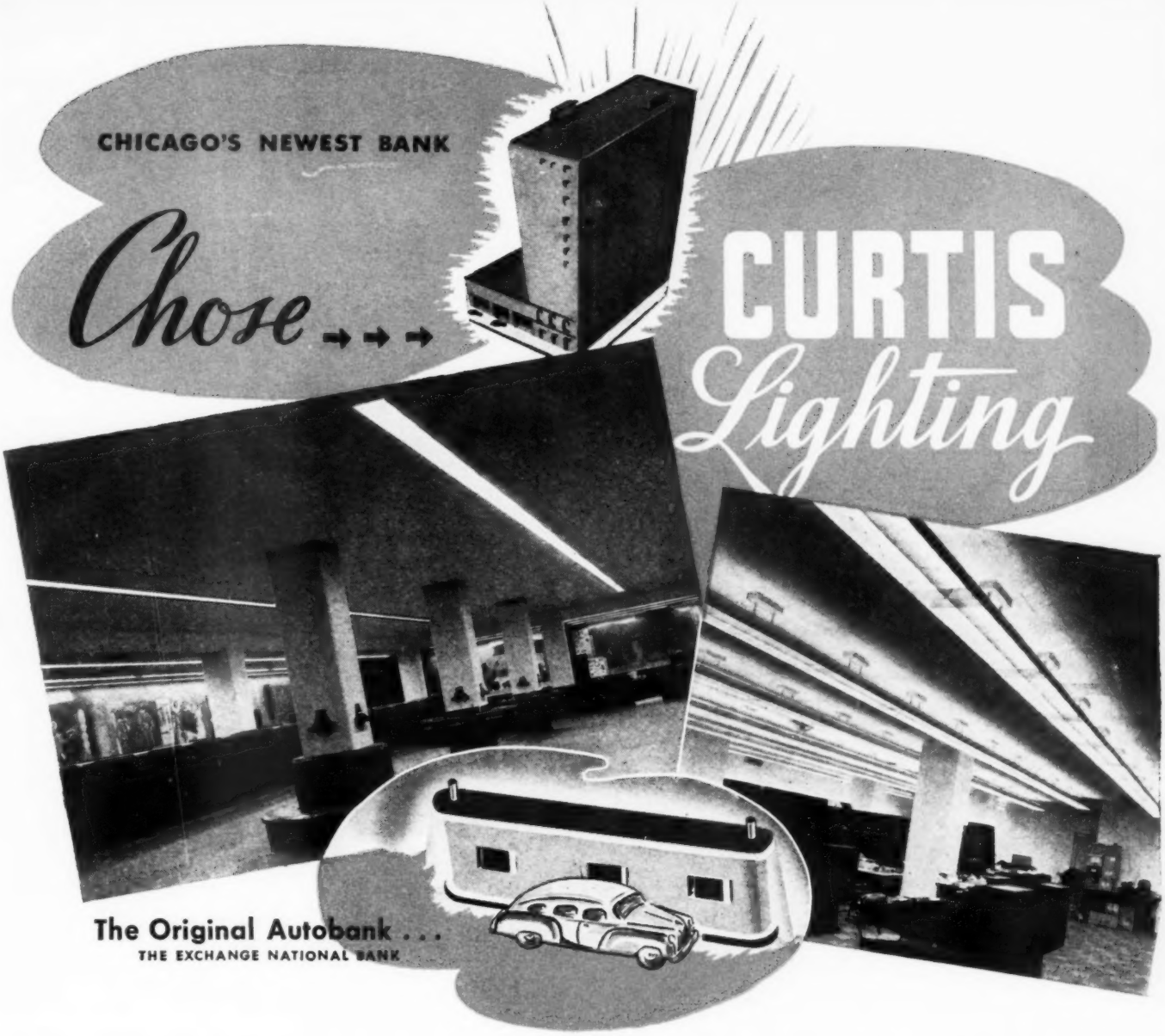
Quiet operation combined with high air deliveries . . . Rugged, streamlined construction . . . Rubber cushioned against vibration. Low power consumption.

...wherever people live, work, play or gather!

CHELSEA

CHELSEA PRODUCTS · INC.

FACTORIES: COIT, GROVE & OLSEN STS., IRVINGTON, NEW JERSEY



HERE LIGHTING MUST BE BOTH DECORATIVE AND FUNCTIONAL

Autobanking . . . makes it possible to drive your own automobile right into the interior of the bank and transact your business without ever leaving the seat of your car. The Exchange National Bank of Chicago, first to add autobanking to its regular banking facilities, chose Curtis Lighting to help create the modern atmosphere which surrounds its new quarters.

Curtis Troffers are mounted in continuous lines in the acoustical ceiling of the main banking floor and executive offices. The Curtis "Forty-Sixty" provides "efficient seeing conditions" behind the scenes where complex and exacting detail work is carried on. By the use of these Curtis products, this bank has achieved an efficient lighting scheme which is as modern as autobanking.

CURTIS LIGHTING, INC.
6135 WEST 65th STREET, CHICAGO 38, ILLINOIS

Profit Heaven for '47
TOASTSWELL TOASTERS

You'll make real money this year with TOASTSWELL, for every housewife wants this famous toaster—"America's Best". It's the Super-Silent, Fully Automatic Toaster that makes *better*, more uniform toast, with a delicious sealed-in flavor. The toaster with Timax Control (a Silent Clock and a Thermostat). The toaster that's unsurpassed in beauty, performance and dependability.

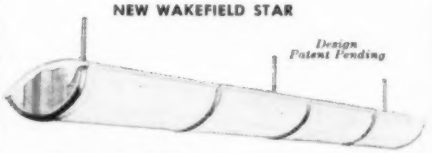
TOASTSWELL Toasters are Nationally-Advertised, too—with TOASTSWELL Sandwich Toasters, Food Warmers and Waffle Bakers. Push easy-selling, profit-making TOASTSWELL!

THE TOASTSWELL COMPANY • 620 Tower Grove Ave. • St. Louis 10, Mo.

For a "sky" of easy-eye light specify *The Wakefield STAR!*

It's brand new. Combines the advantages of fluorescent and indirect light. Pre-tested to give extra assurance of good lighting service. Plaskon reflector shield slides out like a drawer for easy cleaning. The ideal unit for Over-ALL LIGHTING in many school classrooms!

NEW WAKEFIELD STAR



Over-ALL . . .
in lighting
in sturdy construction
in ease of maintenance

Here's why Over-ALL Lighting *by Wakefield*
can help you do it!

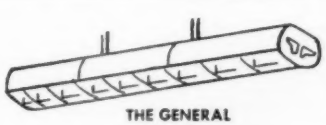
Wakefield's new Over-ALL lighting spreads soft, diffused light over all. As this picture suggests, its effect is as pleasing and comfortable for eyes as nature's sky. That's what makes it tops for school lighting . . . as well as for lighting offices and stores.

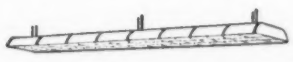
And Over-ALL lighting is tops for you because you can create it with any Wakefield lighting equipment . . . since Over-ALL lighting is based on "seeing" results. Incidentally, you'll find that the new Wakefield equipment has it *over* all others for sturdy construction, ease of installation (with completely interchangeable parts) and ease of servicing and maintenance. *And you get the extra selling help* of Wakefield's consistent advertising in the school field.

Ask your local Wakefield representative to tell you about Over-ALL lighting. Or write for a copy of our new catalog No. 46.
The F. W. Wakefield Brass Company, Vermilion, Ohio.

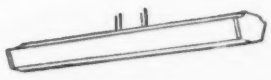
Wakefield

LIGHTING EQUIPMENT FOR OFFICE, SCHOOL AND DRAFTING ROOM


THE GENERAL


THE GRENADIER

THE COMMODORE


THE DIPLOMAT

★

For manufacturing, domestic, industrial and utilities wiring . . .

Specify wire and cable insulation made from GEON Plastics

8 REASONS WHY . . .

★ ***Excellent electrical properties***

★ ***Thin coating of insulation***

★ ***More conductors in a given space***

★ ***Ease of handling***

★ ***Easy stripping***

★ ***Light weight***

★ ***Resistance to ozone, wear, sunlight, water, chemicals, and most other normally destructive factors***

★ ***14 colors including NEMA standards***

Be sure to specify wire or cable insulated with GEON in order to get *all* these advantages. Or, for information regarding special applications please write Department K-1, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. In Canada: Kitchener, Ontario.

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE brand chemicals

MEMO
TO WHOLESALERS
Here's an industrial magazine advertisement currently appearing in 15 publications and chock-full of valuable information for you and your salesman.

ENGINEERS SHOULD CHECK THESE FEATURES:

1. Arcs are snuffed quickly by BullDog's Vacu-Break Arcing Chamber to insure safety and prevent pitting and burning of contacts.
2. Fuse failures and damaging high temperatures are reduced by bolt-tight "Clampmatic Contacts" to add years to the life of the switch.
3. Fewer moving parts means less trouble—less maintenance.
4. No more broken switch handles. Husky rocker-type handles operate with ease and stand abuse. Front operation permits "ganging" switches without waste space.
5. Skinned knuckles and distortion of cables are eliminated, because ample wiring space is provided for easy installation.

Better switch to a Better Switch!

ONCE a safety switch is installed, most everybody takes it for granted, at least until it starts to give trouble.

But you never have to give BullDog Vacu-Break Safety Switches more than a passing glance. These modern switches are designed and built to give long, trouble-free service under heavy use with the *absolute minimum of maintenance.*

No costly shutdowns on your production line . . . no delays for expensive switch repairs. Those are the reasons why thousands of plant executives and their engineers have agreed on BullDog Vacu-Break Switches.

You'll do well to follow their lead by *switching to a better switch.* There's a BullDog Field Engineer close by to show you BullDog installations near your own plant and give you full technical details. Or you can write BullDog direct for descriptive folders. Do it today!

• • •

BullDog manufactures Vacu-Break Safety Switches—SafToFuse Panelboards—Superba and Rocker Type Lighting Panels—Switchboards—Circuit Master Breakers—"Lo-X" Feeder BUStribution DUCT—"Plug-in" Type BUStribution DUCT—Universal Trol-E-Duct for flexible lighting—Industrial Trol-E-Duct for portable tools, cranes, hoists.

ADEQUATE WIRING SERVES AND SAVES

BULLDOG

ELECTRIC PRODUCTS COMPANY

DETROIT 32, MICHIGAN. FIELD OFFICES IN ALL PRINCIPAL CITIES. IN CANADA: BULLDOG ELECTRIC PRODUCTS OF CANADA, LTD., TORONTO

Ordinary Fluorescent Fixtures, fitted with conventional Starter Switches, frequently result in confusing, high cost maintenance. When Lamps stop burning, it is often very difficult to determine whether the Lamp or the Starter needs replacing.

With GUTH Quick-Liters, there are no Starter Switches—so there are no questions! When a Lamp goes out, it's a dead Lamp! Result—easier, quicker, more certain maintenance. Also, much longer usefulness—since each Lamp supplies illumination to the end of its life!

Check the many additional advantages of GUTH Quick-Liters:—light at the flick of a switch—start and operate at temperatures as low as 0° F, or on low or irregular voltage—mass-produced for lower initial cost and more economical installation cost. These advantages readily explain why Quick-Liters are the final word in Good *Fluorescent Illumination*.

WRITE TODAY FOR INTERESTING MATERIAL
ON THE FEATURES OF GUTH QUICK-LITERS

MANY ATTRACTIVE, EFFICIENT Guth FLUORESCENT LUMINAIRES

MAY BE EQUIPPED WITH QUICK-LITER BALLASTS

Leaders in LIGHTING Since 1902

★ ★ ★ THE EDWIN F. Guth COMPANY ★ ★ ★

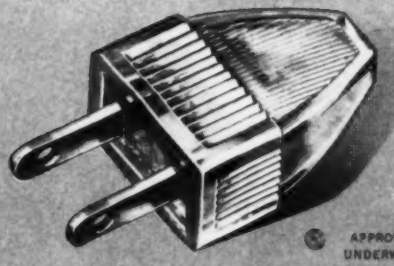
2615 WASHINGTON AVE. ST. LOUIS 3, MISSOURI

STRIKING NEW NITE-T-LITE COUNTER DISPLAY MAKES SALES AUTOMATICALLY

Place this colorful new display, with its 24 Nite-T-Lites, in a busy customer-traffic spot. It works like magic, making sales without time or effort on your part.

Encore!

more GLOW for more sales and profits as Littelfuse scores again with a better NITE-T-LITE*



APPROVED BY UNDERWRITERS' LABORATORIES

Sales quickly climbed to the 3,350,000 mark when Nite-T-Lite first was introduced. Now, the new improved version of this amazing neon-glow light heads for even greater popularity. Its glow is bigger, and better diffused. An attractive etch-effect design conceals the element, and prevents glare.

Approved by Underwriters' Laboratories, and leading safety authorities, Nite-T-Lite operates for up to six months for a penny. Just plug it into any 110 to 125 volt AC or DC wall plug or receptacle and it burns continuously for up to a year. Nite-T-Lite's friendly glow safely guides family and guests in darkened halls, bathrooms, bedrooms, and all through the house.

Order a supply today and cash in as Nite-T-Lite catches its second sales-wind and records another smashing merchandising success.

* REG. U. S. PAT. OFF.—PAT. NO. 144877

FIRST IN CIRCUIT PROTECTION

LITTELFUSE *Incorporated*

4783 N. RAVENSWOOD — CHICAGO 40, U. S. A.

FUSES, MOUNTINGS AND ACCESSORIES • CIRCUIT BREAKERS • SWITCHES • NITE-T-LITE • SWITCH-LITE • IGNITION-FRITZ • NEON INDICATORS

You Can Always Rely on RACO!

Remember, you can always Rely on Raco! It's more than a catch-phrase, more than a slogan—it's your positive assurance of a quality line that's preferred the country over! And, here's why:

THEY'RE CLEAN—no ragged or rough edges, attractively finished!

THEY'RE UNIFORM—every Raco product is made to the same exact measurements.

THEY'RE DEPENDABLE—the Raco line is backed by more than 34 years' experience in the designing, engineering, and production of steel products.

THEY'RE PACKAGED—Raco boxes come packed in cartons. Easy to stock, inventory and identify.

Write today for your free copy of catalog on Raco products. It's the quality line, the dependable line, the line that you and your salesmen can sell with pride and profit—today—tomorrow—and for many years ahead.

ALL-STEEL EQUIPMENT, INC.
300 Kensington Ave., Aurora, Ill.

RACO
ALL-STEEL PRODUCTS

A Complete Line of Switch and Outlet Boxes

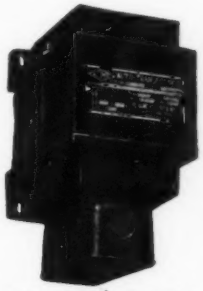
ALL-STEEL EQUIPMENT, INC.

CHECK THE ADVANTAGES of ACME AIR COOLED TRANSFORMERS

- Simplicity of design
- Less weight per KVA
- No maintenance
- High efficiency
- Easily installed
- Heavy duty performance

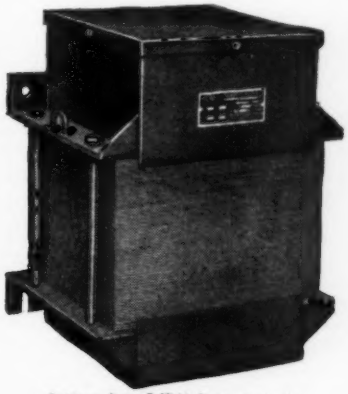
Excess, non-working weight has been eliminated in Acme Electric air cooled transformers. All-steel construction provides less weight per KVA and high efficiency performance at normal temperature rise of 55°C. These engineering results are a guarantee of trouble-free long life performance.

You can recommend and sell Acme Electric air cooled transformers with complete confidence in their performance. Write for Bulletin AC 160 containing specifications of auto-type, and insulated types from 1/10 KVA to 50 KVA all standard primary voltages up to 600.



1/10 to 1/2 KVA. Featuring low-loss silicon steel annealed cores and polymerizing varnish insulated coils.

1/2 to 1 KVA. A heavy duty transformer with offset mounting brackets that allow free air circulation.



Ratings from 1 KVA feature sturdy construction and exposed laminations.

15 to 50 KVA. Replaces former oil cooled applications with safety, convenience and economy.

Acme Electric Corporation
67 Water Street **Cuba, N. Y.**

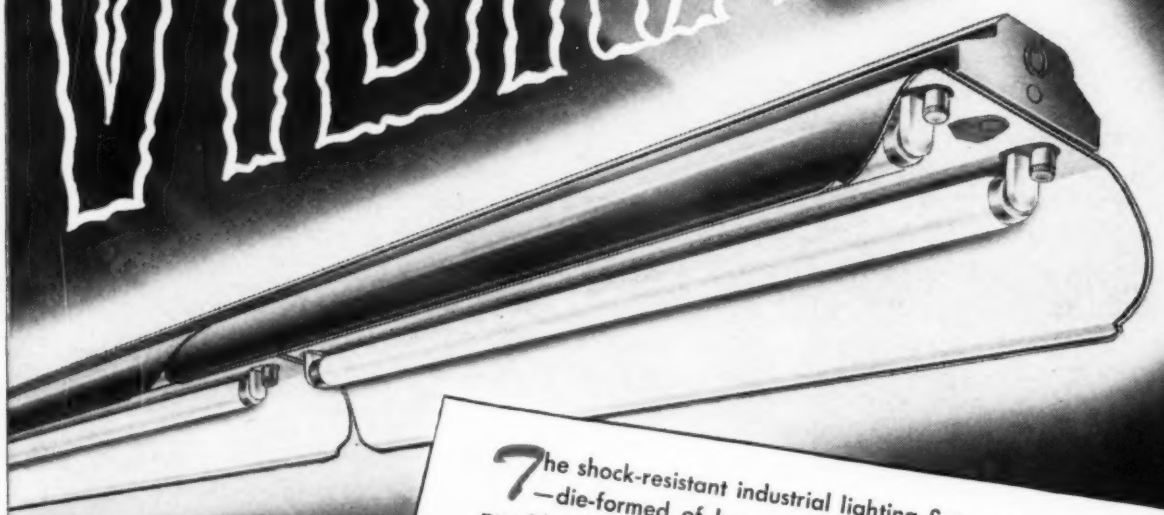
Acme Electric TRANSFORMERS

Acme Electric also manufactures Luminous Tube Transformers—Fluorescent Lamp Ballasts — Cold Cathode Lighting Transformers and Ballasts — Mercury Vapor Lighting Transformers — Radio and Television Transformers — Electronic Transformers — Door Bell, Chime and Signalling Transformers — Safety Transformers — Voltage Regulating Transformers—Step Down Transformers—Control Transformers—Warp-Stop Transformers—Capacitor Transformers for Power Factor Correction.

IN CANADA, Acme Electric & Manufacturing Co. of Canada Ltd.
1434 St. Catherine St., W., Montreal 25, Que.

DETROIT PUBLIC LIBRARY

DAY-LINE
....IMMUNE TO
VIBRATION



The shock-resistant industrial lighting fixture. It's rugged—rigid—die-formed of heavy-gauge steel. Its truss-like construction provides for added strength. Nothing can bend or work loose.

May we send Bulletin 30-A with complete details?

The DAY-LINE

Heavy-duty industrial fluorescent fixture with porcelain-enameled steel reflectors. Designed for two and three 40- or two 100-watt lamps—unit or continuous installations. U. S. Patent Nos. 2317434, D-135375 and D-133458.

Day-Brite Lighting, Inc., 5405 Bulwer Avenue, St. Louis 7, Mo.
Nationally distributed through leading electrical supply houses.
In Canada: address all inquiries to Amalgamated Electric Corp., Ltd., Toronto 6, Ont.

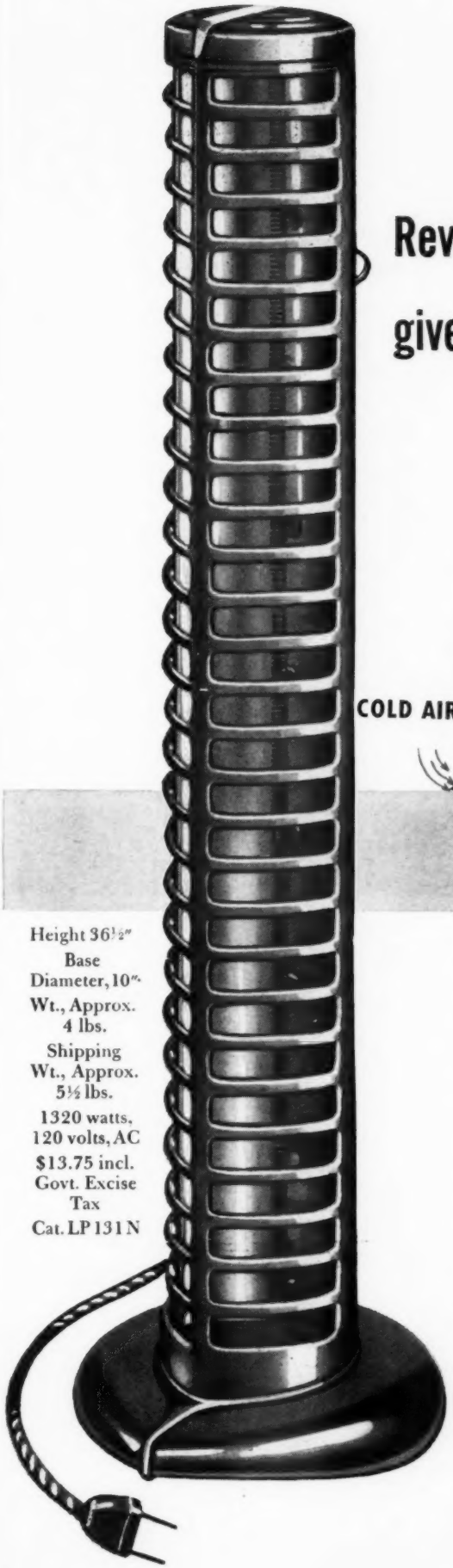
DAY-BRITE QUALITY

291

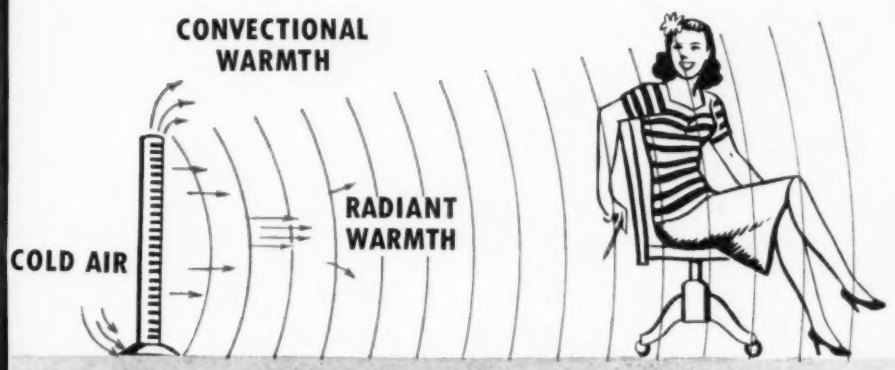
IT'S EASY TO SEE WHEN IT'S

DAY-BRITE
Lighting

Revolutionary design of Longfella' portable gives you *2 KINDS OF WARMTH*



Height 36½"
Base Diameter, 10"
Wt., Approx. 4 lbs.
Shipping Wt., Approx. 5½ lbs.
1320 watts, 120 volts, AC
$13.75 incl. Govt. Excise Tax
Cat. LP131N



HEAD-TO-HEELS RADIANT WARMTH
PLUS OVER-ALL CONVECTIONAL WARMTH

Only the Thermador Longfella' offers *two kinds of warmth*... head-to-heels, infra-red, *radiant* warmth from its long, slender reflector—*plus* all-over-the-room, *convectional* warmth through its uniquely designed top.

No wonder, then, that the Longfella' is far more effective than the ordinary portable... *that watt for watt it is the most efficient auxiliary radiant heating unit ever designed.*

Greater efficiency is but half the story of the Longfella's long, slender revolutionary design. No other portable requires so little floor space—fits into *any* corner of *any* room. And no other portable's so easy to store—tucks away snugly in the smallest closet.

Every home and office needs at least one of these remarkable Longfella's... for quick, clean warmth in the bathroom—safe, anxiety-free warmth in the playroom—pure, electric warmth to banish cold spots everywhere.

For complete details, write Dept. EW-1.

THERMADOR
LONGFELLA'

"Seven Leagues Ahead"

Thermador Electrical Mfg. Co., 5119 District Blvd., Los Angeles 22

CENTRAL SPANS CONDUIT

...PROVIDES LIFETIME PROTECTION!

EASY-TO-WORK Spang CW and Spang Lapweld . . . the finest, full standard weight types of pipe made . . . are used to make Central Rigid Steel Conduit. That's why it has strong walls, full weight and good fatigue resistance. These qualities are your assurance that Central Rigid Steel Conduit will resist crushing and that it will withstand vibration.

Both the inside and outside of Central Rigid Steel Conduit are given a permanent, elastic black enameled or hot dipped galvanized and lacquered finish. Consequently, you can depend upon Central Rigid Steel Conduit to resist severe conditions of corrosion.

But that's not the whole story.

Central Rigid Steel Conduit has a carefully prepared, smooth inside surface which enables wire to be pulled through or withdrawn fast and easy. It has an accurate circular cross section which permits cutting of clean, true threads assuring quick make-up and tight joints. Central Rigid Steel Conduit meets all the National Electrical Code specifications for moisture, vapor and dust proof requirements in hazardous locations and occupancies. And every length is inspected by Underwriters' Laboratories and bears their label of approval.

Conditions, with which all of us are familiar, have prevented us from keeping pace with the tremendous demand for Central Rigid Steel Conduit. But you can be sure that you will get a fair share of our production.

There's Tested Strength in Every Length . . .

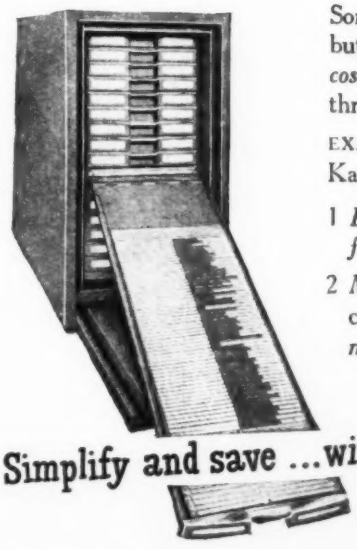
SPANG-CHALFANT

Division of The National Supply Company
General Sales Office: Grant Bldg., Pittsburgh 30, Pa.
District Offices and Sales Representatives in Principal Cities

Threads on Central Rigid Steel Conduit are checked for length, taper and size. Only those that are accurate in every detail are passed. That's why you are always sure of tight fitting joints when you use Central Rigid Steel Conduit.

© 1947 by Remington Rand, Inc.

There's no room for cost-heavy systems AND profits



Some of today's higher costs can't be avoided, but you can sharply reduce your *controllable costs* by simplifying systems and procedures throughout your organization.

EXAMPLE: A wholesaler recently adopted a Kardex-simplified stock control system that:

1 *Enables two girls to do clerical work that formerly required six girls.*

2 *Makes it possible, through closer inventory* control, *to speed turnover and reduce his merchandise investment by thousands of dollars.*

3 *Assures him a* controlled *stock of quick-selling items needed to get—and hold—day-to-day business from important customers.*

Whatever type of business you are in, and whetner your costs are high in sales . . . inventory . . . production . . . ledger . . . or personnel, Remington Rand simplified systems can pay you extra savings by reducing these *controllable* costs. Let's talk it over! Phone our nearest office for booklet GRAPH-A-MATIC MANAGEMENT CONTROL, or write SYSTEMS DIVISION, 315 FOURTH AVENUE, NEW YORK 10, N. Y.

Simplify and save ...with KARDEX

Remington Rand

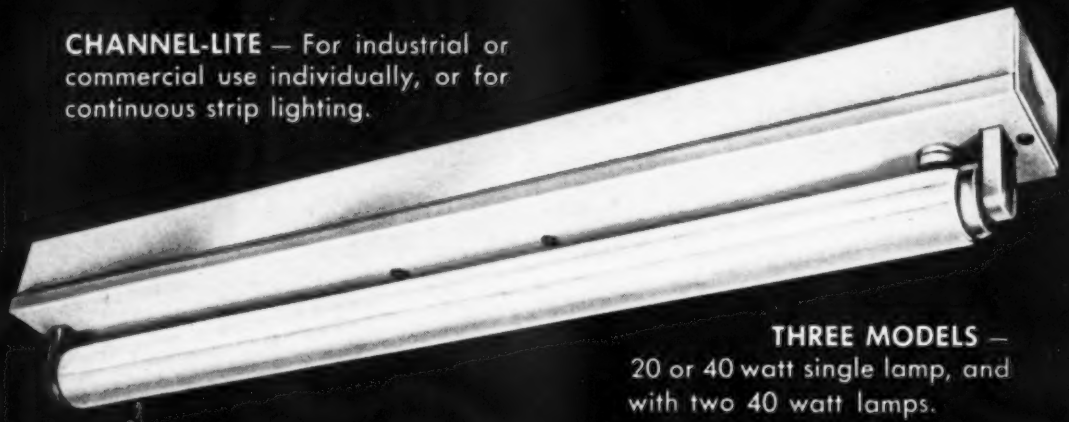
THE FIRST NAME IN BUSINESS SYSTEMS

ANOTHER NAME FOR QUALITY IN FLUORESCENT LIGHTING

electricraft

ANNOUNCES A NEW CHANNEL LIGHT OF ADVANCED DESIGN!

CHANNEL-LITE — For industrial or commercial use individually, or for continuous strip lighting.



THREE MODELS — 20 or 40 watt single lamp, and with two 40 watt lamps.

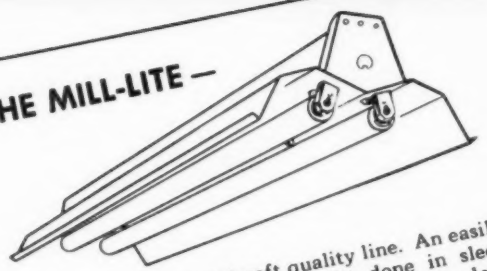
Look to Electricraft . . .

. . for prices that compare! All Electricraft products, including parts and accessories, are made in our own plant. This insures highest quality, allows control of costs and helps eliminate delayed deliveries due to parts shortages. That's why distributors and jobbers secure the highest type merchandise at prices that sell!

Depend on Electricraft . . .

. . for the best! The result of long, careful research, Electricraft products all feature shock and vibration proof lamp sockets and starter holders perfected by our own engineers. Add prestige to your entire line with these up-to-the-minute Electricraft "firsts". They offer greater sales and profits to you.

THE MILL-LITE —



Another of the Electricraft quality line. An easily installed, rugged industrial light done in sleek gray finish. Includes the fool-proof, spring lock lamp socket and starter holder.

WRITE, WIRE OR PHONE FOR SALES LITERATURE AND QUOTATIONS TODAY

electricraft

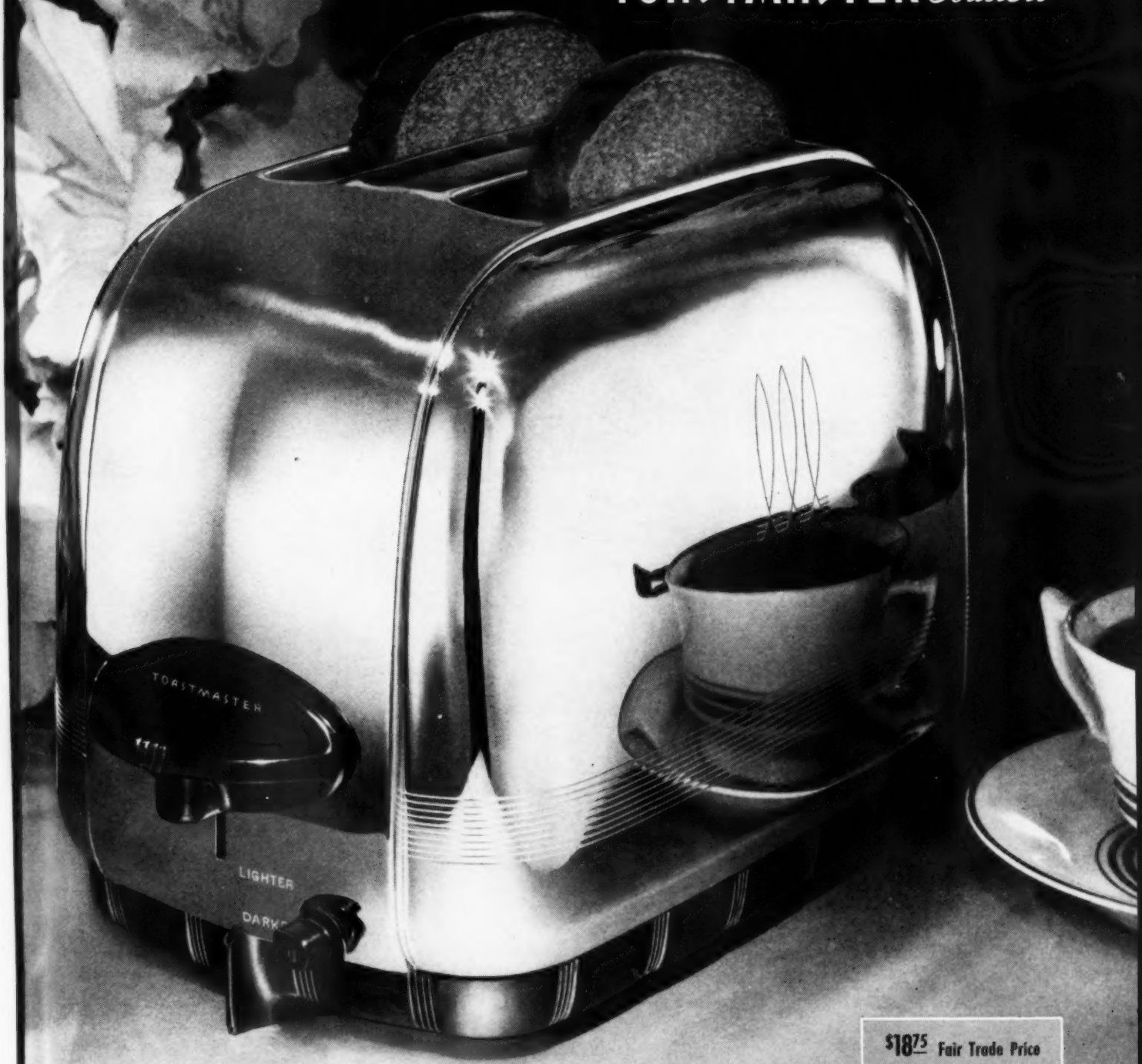
FLUORESCENT LUMINAIRES OF ADVANCED DESIGN

CORPORATION

Always first...First all ways!

It's first in the experience that counts with your customers because "Toastmaster" pioneered the automatic toaster. It's first in performance as thousands of ten-year-or-better users prove. It's first in sales. More people own "Toastmaster" toasters than all other automatic toasters combined. It's first in effective promotion—the best-known name in the industry. Any way you look at it, the "Toastmaster"* toaster is easiest for you to sell . . . in the greatest numbers.

TOASTMASTER *Automatic Pop-Up Toasters*

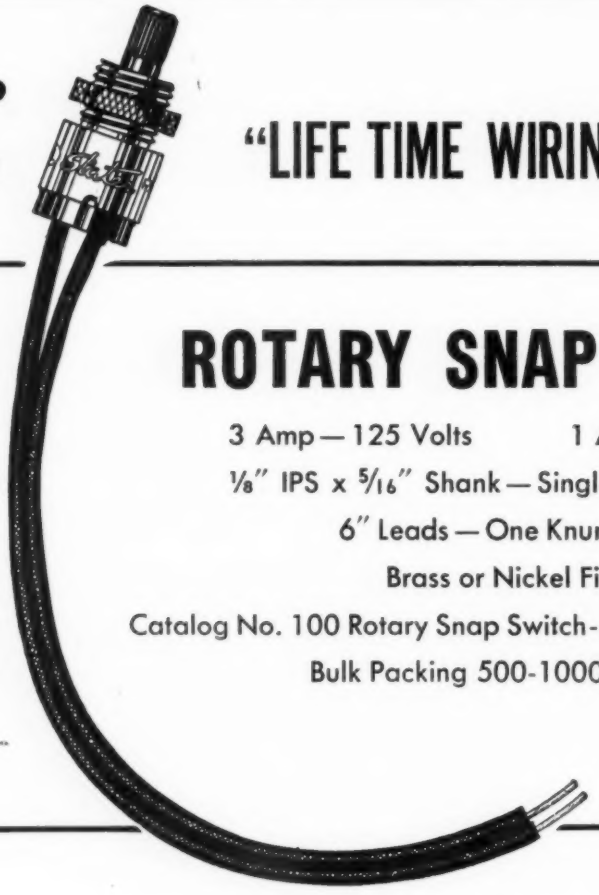


$18.75 Fair Trade Price

*"TOASTMASTER" is a registered trademark of McGraw Electric Co. Copr. 1947, TOASTMASTER PRODUCTS DIVISION, McGraw Electric Co., Elgin, Ill.

Slater

"LIFE TIME WIRING DEVICES"



ROTARY SNAP SWITCH

No. 100 SPST

This is the famous Slater "Life-Time" Switch. Our tests are discontinued after 30,000 on-off cycles.

3 Amp — 125 Volts 1 Amp — 250 Volts

⅛" IPS x 5/16" Shank — Single Hole Mounting

6" Leads — One Knurled Nut

Brass or Nickel Finish

Catalog No. 100 Rotary Snap Switch - Std Pkg 200 - Pkg Weight 6 lbs.

Bulk Packing 500-1000 Optional

Listed by

UNDERWRITERS' LABORATORIES, INC.

BAKELITE LAMPHOLDER—3 PIECE

Body and Interior — 1 Piece — ⅛" Cap — Metal Interlocking Ring

250 Watts — 250 Volts

Finish: Black — Metal Parts: Polished Nickel

	Std Pkg	Pkg Weight
Catalog Nos. 200 Black Bakelite	200	24 lbs.
Catalog Nos. 200-I Ivory Bakelite	200	24 lbs.

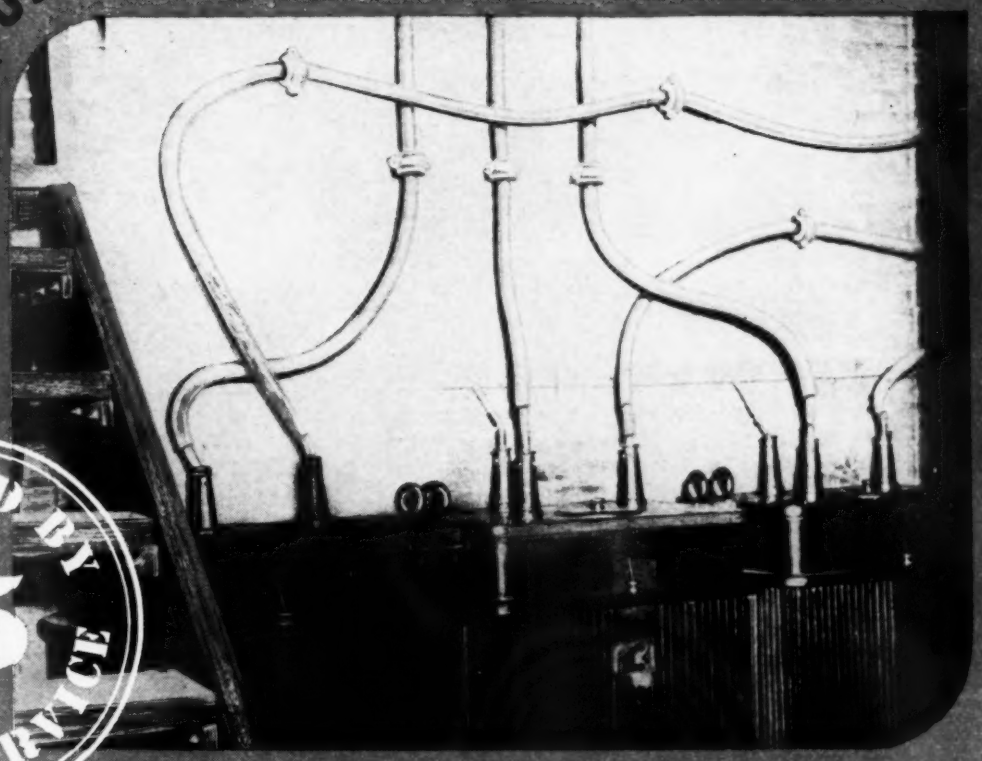
Listed by UNDERWRITERS' LABORATORIES, INC.

Slater Products Are Distributed and Sold Through the Electrical Wholesaler

Slater ELECTRIC & MANUFACTURING CO., Inc.

56th STREET & 37th AVENUE, WOODSIDE, N. Y.

TIME Puts its OK on KEYSTONE



PROVED BY 25 YEARS SERVICE

Typical service record of Hazard Keystone Insulation is this 22,000 volt transformer cable installation — no trouble for 25 years . . . no signs of deterioration .

When you are plotting ways and means to keep ozone, moisture and heat from short-changing you in power circuits, remember this concrete example of what you can expect from Hazard Keystone Insulation under such operating conditions — 25 years of trouble-free service and still no signs of insulation deterioration is the history of these 22,000 volt transformer cables installed by an inter-urban electric railroad.

Hazard Keystone Insulation effectively combines in one oil-base compound unusual resistance to ozone, heat, moisture, sunlight, chemicals and acids. It has been used with outstanding success for aerial, underground, interior and submarine circuits with various types of outside protective jackets employed in accordance with the particular job requirements. For all the facts, write for bulletin H-403. The Hazard Insulated Wire Works, Division of The Okonite Company, Wilkes-Barre, Pa.

HAZARD

insulated wires and cables for every electrical use

4889

Make January your HOTTEST MONTH

The most sensational Heat Lamp offer in G-E history can help you do it!

1. IT'S THE RIGHT SEASON! Winter chills and ills create a peak demand for the soothing comfort that a G-E infra-red heat lamp can bring. Turn on the sales heat *now* and make that ol' cash register sizzle!

2. IT'S THE RIGHT LAMP! It's always easier to sell 'em what they *want*. And your dealers' customers know the G-E monogram on a heat lamp means top value, because consistent national advertising pre-sells General Electric lamps week after week.

3. IT'S THE RIGHT PRICE! At the new low price of only $1.25, more and more people will be in the market for this quality product. The standard General Electric infra-red heat lamp is a real buy—watch it bring in those extra sales that mean extra profit!

4. AND IT'S AVAILABLE! Not the least sensational thing about these G-E heat lamps is that we've got 'em and you can get 'em! No waiting for delivery. Here's a profit opportunity you can grab today—this very minute—when consumers are in the buying mood.

HERE'S ALL YOU HAVE TO DO

It's easy to make this big sales event pay off. Have your dealers stock plenty of G-E infra-red heat lamps, and put 'em where they'll catch the eye of every customer. Spotlight the bargain with special G-E display cards and window streamers. Feature G-E heat lamps in your advertising and direct mail. In short—make January G-E Heat Lamp Month. And if it turns out to be your hottest sales month yet—don't say we didn't warn you!

G-E LAMPS

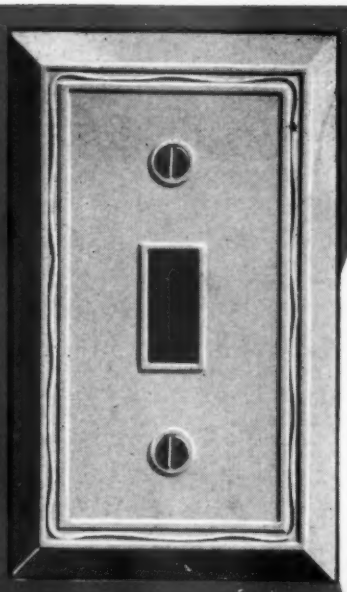
GENERAL ELECTRIC

IMMEDIATE SHIPMENTS

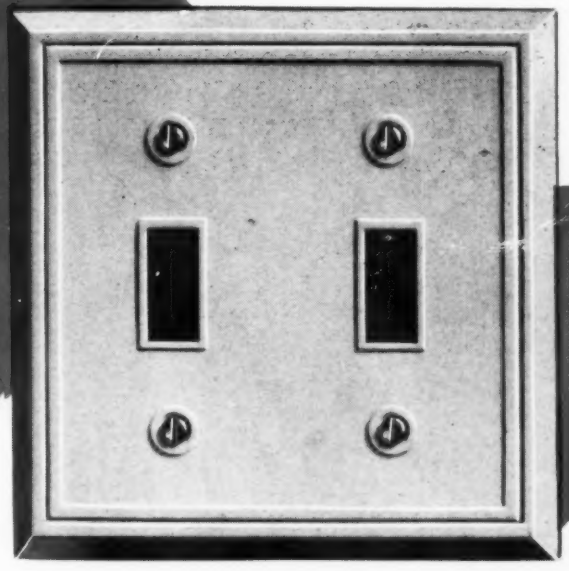
Unlimited Quantities

on ivory colored

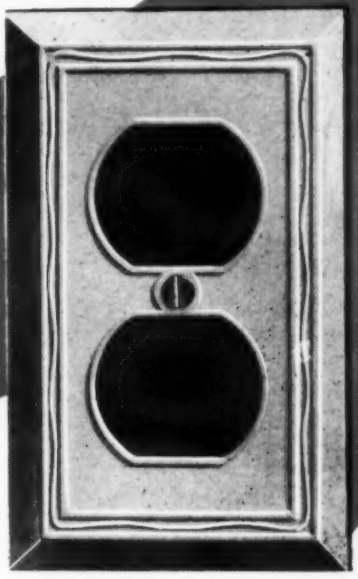
SWITCHPLATES



No. 1039 One Gang Toggle Plate $40 per 1000



No. 1040 Two Gang Toggle Plate $120 per 1000



No. 1041 Duplex Receptacle $60 per 1000

- **Orders shipped the same day they are received.**
- **Each plate packaged in an individual envelope complete with screws.**
- **Orders accepted at these prices until March 1, 1947.**

Samples sent upon request.
Terms: Less 2%, 10 days
F. O. B. Los Angeles

PLACE YOUR ORDER TODAY!

ALL-PLASTIC MANUFACTURING CO.

501 N. Figueroa St. • Phone TRinity 0851 • Los Angeles 12, Calif.

Address all correspondence to P. O. Box 2152, Terminal Annex, Los Angeles 54, California

Leading Fixture Manufacturers
Use ADVANCE Ballasts
in Their Fluorescent Fixtures

ADVANCE TRANSFORMER CO.

1100 W. CATALPA AVE. CABLE ADDRESS: ADTRANS CHICAGO 40, ILL., U. S. A.

ROME SYNTHINOL BUILDING WIRE

In Rome Synthinol*—Types T and TW—building wires you'll find all these and many more advantages for general purpose wiring.

Type T is approved by the Underwriters' Laboratories for use in new wiring, as well as in rewiring of existing raceways under the rules of the new National Electrical Code. Its uniformly small diameter makes possible additional or higher capacity circuits in raceways already installed.

Fully approved for installation in wet locations, Type TW is an ideal substitute for currently scarce and costly lead sheath. Smaller in diameter and lighter in weight, it is easier to handle.

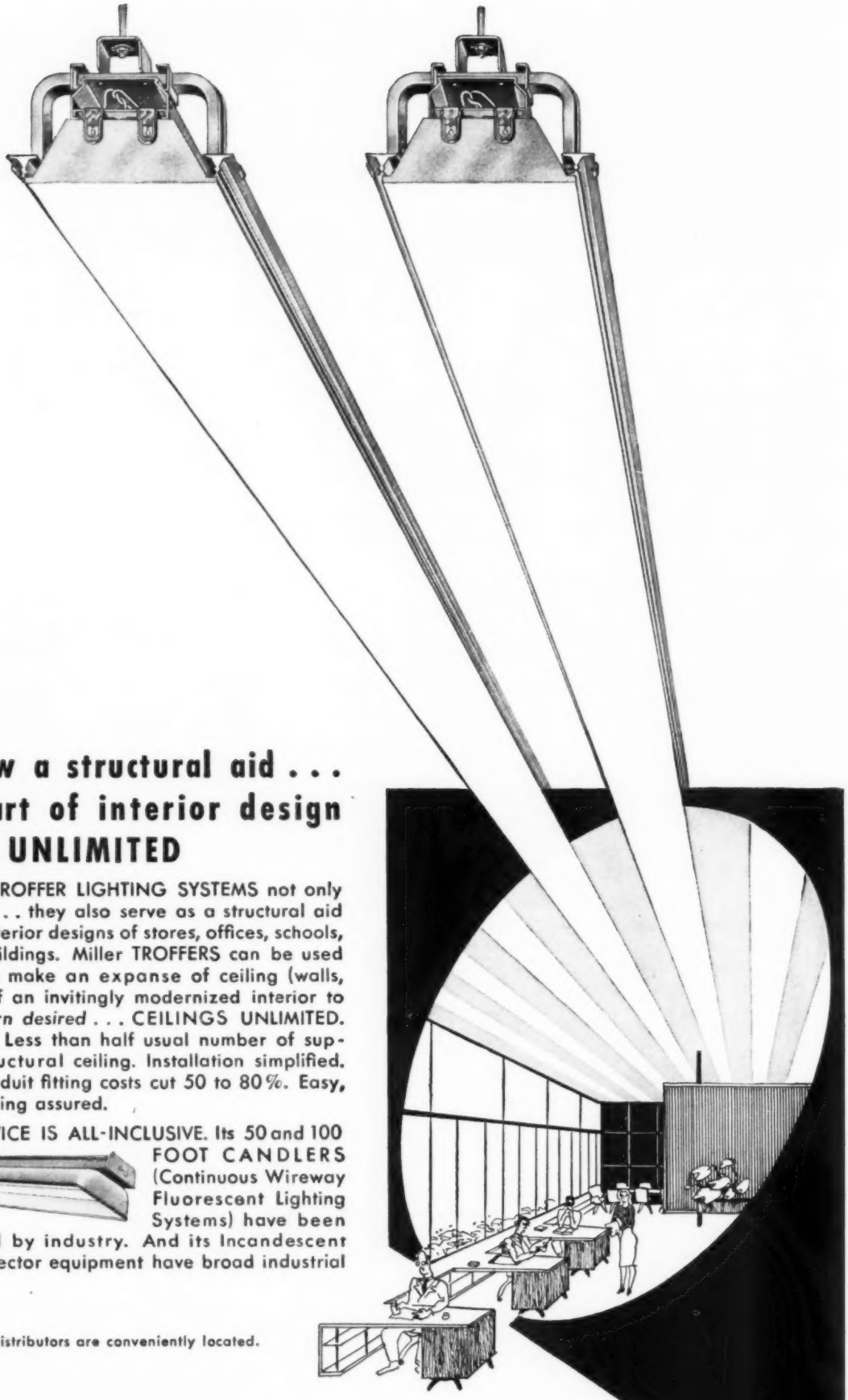
Both types are regularly furnished in black, white, red, green, yellow, blue, orange, and brown.

*Trade-mark Registered

FROM BAR TO FINISHED WIRE

ROME CABLE CORPORATION

ROME • NEW YORK



Lighting is now a structural aid . . . an integral part of interior design . . . CEILINGS UNLIMITED

MILLER FLUORESCENT TROFFER LIGHTING SYSTEMS not only provide GOOD LIGHT . . . they also serve as a structural aid in the planning of the interior designs of stores, offices, schools, factories and public buildings. Miller TROFFERS can be used as "building blocks" to make an expanse of ceiling (walls, too) an integral part of an invitingly modernized interior to form *any ceiling pattern desired* . . . CEILINGS UNLIMITED. Additional advantages: Less than half usual number of supports needed from structural ceiling. Installation simplified. Wiring, conduit and conduit fitting costs cut 50 to 80%. Easy, accurate leveling of ceiling assured.

MILLER LIGHTING SERVICE IS ALL-INCLUSIVE. Its 50 and 100 FOOT CANDLERS (Continuous Wireway Fluorescent Lighting Systems) have been established as standard by industry. And its Incandescent and Mercury Vapor reflector equipment have broad industrial application.

MILLER field engineers and distributors are conveniently located.

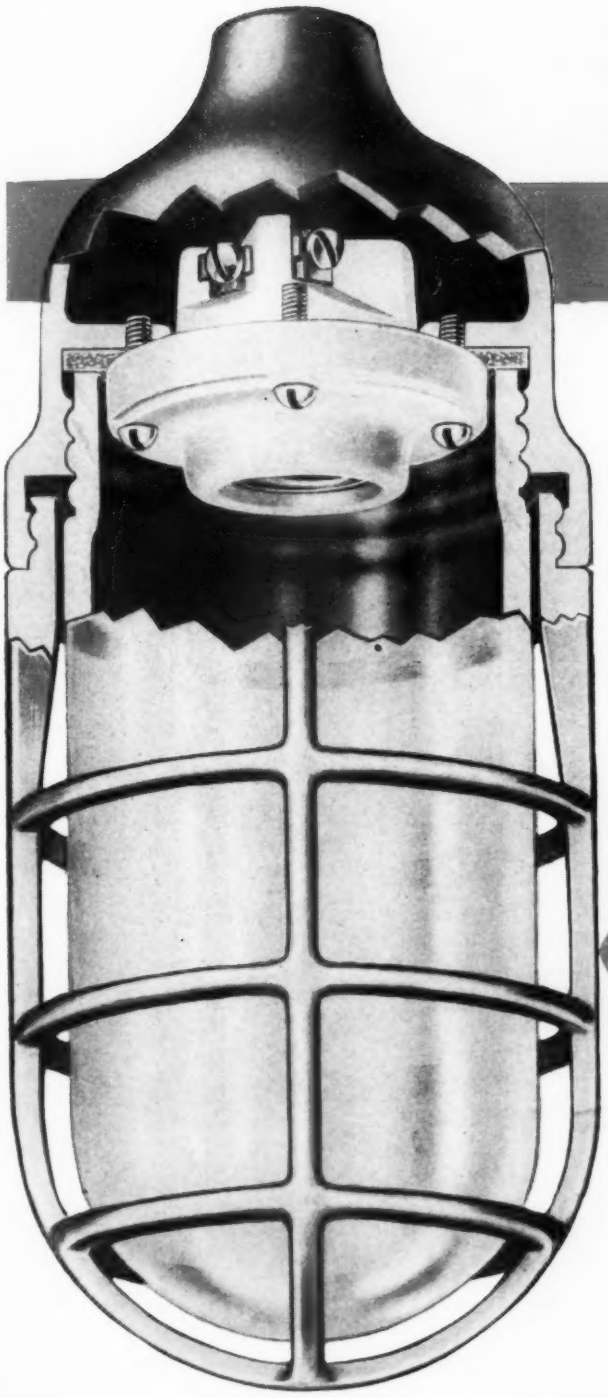
THE MILLER COMPANY

ILLUMINATING DIVISION, MERIDEN, CONNECTICUT

ILLUMINATING DIVISION — Fluorescent, Incandescent Mercury Lighting Equipment

HEATING PRODUCTS DIVISION — Domestic Oil Burners and Liquid Fuel Devices

ROLLING MILL DIVISION — Phosphor Bronze and Brass in sheets, strips and rolls



Vaportight
Industrial Lighting
CONDULETS

(CONDULETS are made only by CROUSE-HINDS)

For use in indoor and outdoor locations where exposed to non-explosive vapors and gases or moisture and rain. Also for use where exposed to non-combustible dusts or where lodgement of combustible fibres or flyings is unlikely.

Vaportight and raintight.

Wiring chamber remains vaportight even though globe is off.

Screw guard or clamp guard types.

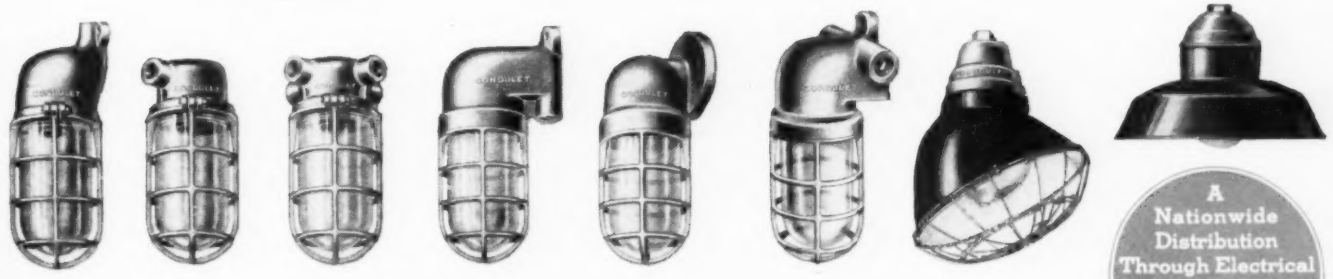
12 Hub arrangements.

4 Reflector styles.

Accessories: colored globes, guards, half shades, adapters.

4 Sizes: 50 through 500-Watt.

Other ***Vaportight*** lighting fixtures are available for attachment to many round-base Condulets and sheet steel outlet boxes. Crouse-Hinds complete ***Vaportight*** line includes hand lamps, switches, plug receptacles, and other electrical devices.



A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY
Syracuse 1, N. Y., U.S.A.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Kansas City — Los Angeles — Milwaukee — Minneapolis — New York Philadelphia — Pittsburgh — Portland, Ore. — San Francisco — Seattle — St. Louis — Washington. *Resident Representatives:* Albany — Atlanta — Charlotte — Indianapolis — New Orleans
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS

Sold through Wholesalers Only

APPLETON RUBBER CO., INC.

BOSTON, MASS.

PACEMAKERS

Pacemakers in the popular price field of fluorescent lighting are the smart new General Day-Lite models for 1947. All newly developed in sound modern design, they continue to be distinguished by their dependable quality, efficient performance and dominant values. As always, they're the wise buyers' choice for volume sales and profits. Available, of course, as fast as production permits.

GDL

General DAY-LITE COMPANY

Manufacturers FLUORESCENT LIGHTING *Fixtures*

Phone: NORRISTOWN 7500 NORRISTOWN PA.

GDL

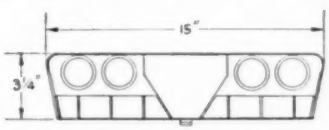
TODAY... *the Lamp of Learning* is FIREFLY EQUIPPED!

University of Wisconsin Drafting Rooms Get Added Seeability with Firefly Fixtures

Soothingly soft light, without glare or shadow . . . in the proper amount . . . and from the correct angle . . . is delivered exactly where it's needed on these students' drawing boards. This is but one of several University of Wisconsin mechanical drafting rooms at its Milwaukee Extension Division—all equipped with Firefly Super Hi-Lite fixtures.

The Super Hi-Lite is a horizontal type 4-light unit. Its bottom louvers, scientifically spaced, give the 45° angle cut-off from the line of vision, recommended by lighting authorities. Note that these Firefly Fixtures are installed singly, and in continuous rows. This feature not only permits installing the proper number of fixtures but allows *diagonal* installation.

An outstanding feature of the Super Hi-Lite is its remarkable flexibility. Louvers may be added later to a bare-tube installation, should the lighting needs of a room change. The shallow, graceful twin-section metal louvers slide easily into the fixture, and the flat wafer-like side panels of Alba-Lite, a new Corning diffusing glass, are practically integral with the louvers. These quick-removable louvers insure easy maintenance.



Super Hi-Lite is an Underwriters' Approved Fixture . . . union made, of double-baked heat-resisting, white enamel . . . mountable from pendants or to ceiling. Like all Firefly Fixtures, it is distributed exclusively through leading electrical wholesalers. Write for literature.

KAHN MANUFACTURING CO., INC.
2051 N. 19th St. • Milwaukee 5, Wis.

THE *Firefly Line* OF FINER FLUORESCENT FIXTURES

Selling like "hot cakes" AND EVERY SALE... A BUSINESS BUILDER

Most compact unit of its type with small cross section, only 1 15/16" deep by 1¼" wide.

WIREMOLD

15 WATT

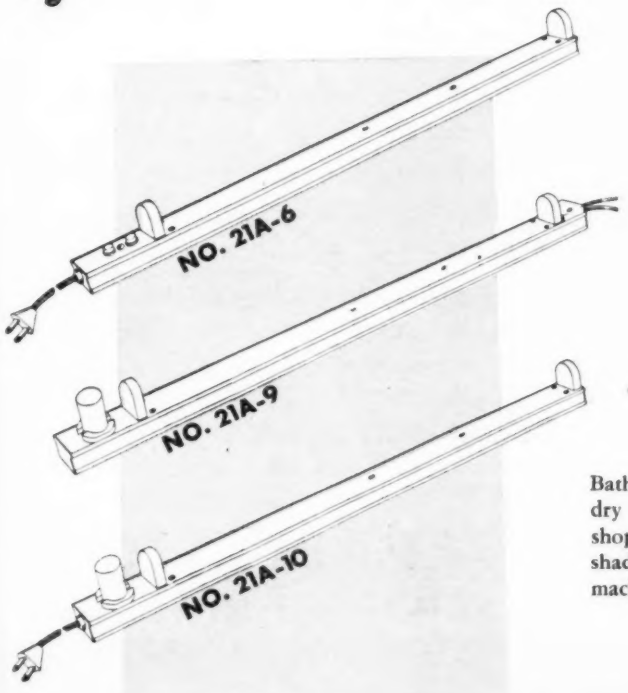
. . BASIC FLUORESCENT UNIT

Here is the practical, low cost unit of unlimited adaptability that contractors and wiremen have been calling for. Available factory pre-wired and ready to install in single and multiple units and in the wide selection of variations that SAVE YOU TIME ON THE JOB and increase your profits.

These are quality units, attractively finished and ideally suited to the thousands of fluorescent lighting installations that are today "ready-money" business in every territory . . . a constructive part of Wiremold's continuing Business Building program for electrical contractors. Get your orders in early. Write us for fully descriptive circular and price list.

THE WIREMOLD COMPANY
HARTFORD 10, CONN.

AVAILABLE IN USEFUL VARIATIONS

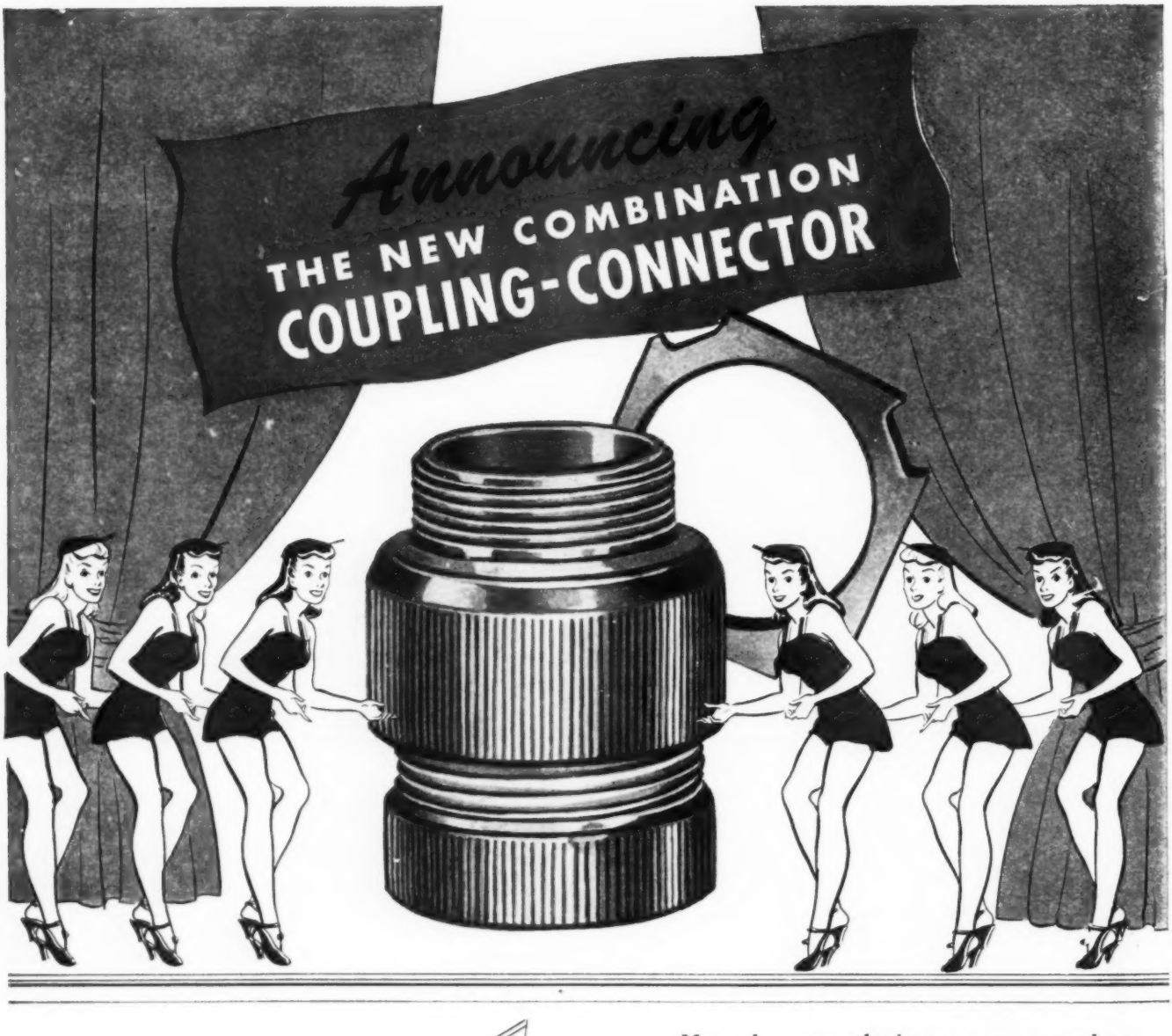


SELL IT FOR THESE NEEDS

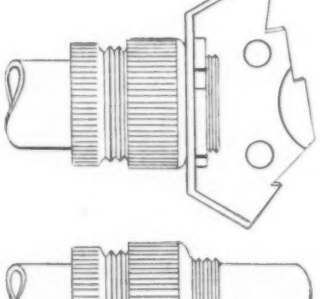
Bathroom . . . kitchen . . . laundry . . . cellar lighting . . . workshop or garage . . . showcases and shadow boxes . . . worklights on machines . . . work-benches . . . counters . . . desks . . . tables . . . display units, etc. With or without reflectors (Wiremold No. 2197-18 Reflector) . . . wherever an extremely compact cross-section unit is needed.

WIREMOLD IT!

FOR PROFIT *and* CUSTOMER SATISFACTION



Used with the nut it becomes a box or receptacle connector as illustrated.



Used without the nut it is a Slip Type Coupling for fast assembly of thinwall conduit.

Here is a revolutionary new product long awaited by the electrical industry. The Conduit Thinwall Coupling-Connector is a single fitting which performs equally well as a receptacle connector or as a Slip Type Coupling. It is all steel, precision machined and threaded, and Cadmium plated throughout. (Patents are pending.)

INITIAL SIZE AVAILABLE, ½"

REPRESENTATIVES IN PRINCIPAL CITIES

Conduit PIPE PRODUCTS CO.

COLUMBUS, OHIO

PIPE COUPLINGS · PIPE NIPPLES · ELBOWS, 90° AND 45°
RUNNING THREAD PIPE · GOOSENECKS · WALLPLATES

THE CLOSED SHOP

Key to Labor Monopoly

IF THE PEOPLE of the United States are to loosen the monopoly control now exercised by some segments of union labor and recapture the power to control their own economic and political destiny, they must come to grips with the problem of the closed shop. A satisfactory solution of that problem is as vital to the interests of the wage earner, who should be fully protected in his right to organize and bargain collectively through representatives of his own choosing, as it is vital to the interests of the nation as a whole.

By the closed shop, which unfortunately is a term that seems to shed more heat than light, I mean any shop in which the worker must make his peace with a union in order to have a job. There are approximately 13½ million union members in the United States. Of these about 10 million are governed by arrangements calling for "closed" shops, union shops, maintenance of membership provisions and similar devices which make good standing in a union a condition to holding a job.

Such arrangements raise serious issues about what is commonly presumed to be the basic American right to work. Also, closed shop arrangements lie at the root of the dominant economic power now exercised by some labor leaders.

The problem of reducing the power of these labor leaders to proportions that make it safe for democracy is the age-old problem of monopoly. In an earlier era this problem was created largely by businessmen who sought to escape the restraints of competition by combinations or agreements to control prices and production. Such efforts are still attempted and must be curbed by law.

Union Labor Monopoly

But, after more than a decade during which a monopoly position for organized labor has been aggressively promoted by the federal government, the major monopolists today are those labor leaders who wield the power of enormous nationwide unions. About 90% of the soft coal miners do the bidding of John L. Lewis. A like percentage of the auto workers are represented by the United Automobile Workers of the C. I. O. About 80% of the production workers in steel are members of the United Steel Workers, C. I. O. No single corporation has more than a fraction of the economic power that is concentrated in these unions. And if corporations were to combine their power to cope effectively with that of these union monopolies they would unquestionably find themselves charged with violating the federal antitrust laws.

In its national sweep, the monopoly power of unions rests largely on their exemption from the federal antitrust laws. My previous editorial in this series (the 53rd) discussed the desirability of removing that exemption. The local roots of this monopoly power are often embedded in closed shop arrangements.

Closed Shop in Coal

An illuminating case in point is provided by the United Mine Workers, whose leader John L. Lewis has graciously given the country a 3½-month reprieve from "the hysteria and frenzy of an economic crisis," as he himself termed it. During that latest crisis the dispatches from the soft coal fields reported that the miners were standing behind John L. Lewis almost to a man. And the implication usually was that the driving forces of the strike were loyalty to Lewis and the prospect of economic gain.

Underlying that performance, however, and basic to it was an agreement in the soft coal fields providing that "as a condition of employment all employees shall be members of the United Mine Workers." Hence to hold a job in 90% of the soft coal industry which is governed by contracts with the United Mine Workers, a miner must not offend the union. To avoid offense the union member must even be careful in criticising what his union

does. *Suspension from the union for six months, and hence from the right to hold a job,* is the penalty imposed by the United Mine Workers constitution for circulating a statement "wrongfully condemning any decision rendered by any officer of the organization."

The willingness of the miners to follow Lewis until the country froze over was not, of course, exclusively a product of the agreement limiting jobs in the coal fields to union members of good standing. Some of it originated in bad handling of employee relations in the coal fields in years gone by. But the fact remains that Lewis' soft coal monopoly has as one of its principal foundations an agreement which gives the United Mine Workers a job-or-no-job hold on 90% of the soft coal miners.

In its extreme form, the closed shop not only makes union membership a condition of employment but narrowly limits the numbers admitted to union membership and hence to the opportunity to work. In this way it is used to enforce restriction of output and working rules which would never stand up under free competition.

Fair Dealing

The closed shop raises major issues of personal freedom and fair dealing between individuals. As matters now stand, closed shop agreements require employers to discharge workers who lose their good standing in the unions involved. At the same time they frequently impose no requirement on unions to grant membership to law abiding and technically qualified persons. Many unions with closed shop agreements refuse to grant membership on the basis of competence. Thus, qualified workers are denied a fair chance to hold a job.

In its dealings with the closed shop issue the federal government has been pushed into a self-contradictory position. The National Labor Relations Act (the Wagner Act) provides, and properly, that "employees shall have the right . . . to bargain collectively through representatives of their own choosing." In furtherance of that basic proposition, the Wagner Act also provides that "It shall be an unfair labor practice for an employer . . . by discrimination in regard to hire or tenure of employment to encourage or discourage membership in any labor organization . . ." Standing alone, the provision would clearly outlaw the closed shop.

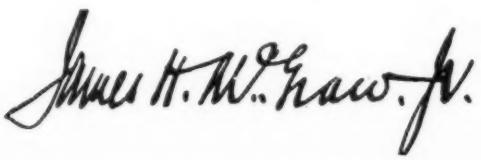
But then, to favor the closed shop, the Wagner Act turns right around and provides that "nothing in this Act . . . shall preclude an employer from making an agreement with a labor organization . . . to require, as a condition of employment, membership therein," provided that certain conditions of representation are fulfilled. This places the National Labor Relations Board in the impossible position of trying to administer a law which simultaneously points in opposite directions.

In successfully contending that there should be no closed shop arrangements on the railroads, the late Joseph Eastman, Federal Co-ordinator of Transportation, said, "If genuine freedom of choice is to be the basis of labor relations under the Railway Labor Act, as it should be, then the yellow dog contract and its corollary, the closed shop . . . have no place in the picture." The so-called yellow dog contract, which requires a worker to agree not to join a union as a condition of employment, has long since been outlawed.

At one time the closed shop was defended as a protective device for feeble young unions struggling against predatory employers. But a mere glance over the current economic scene discloses that the time when that argument was supported by the facts is past. Now it is the labor leaders who frequently exercise decisive economic power.

At elections in November three more states, Arizona, Nebraska and South Dakota, passed constitutional amendments outlawing the closed shop. In doing so, they joined six other states, which, in one way or another, have restricted the closed shop. The South Dakota amendment presented the basic issue created by the closed shop in simple and direct terms when it declared that "The right of persons to work shall not be denied or abridged on account of membership or non-membership in any labor union, or labor organization."

That issue must be squarely faced by the new Congress if its first order of business, the labor crisis, is to be resolved.

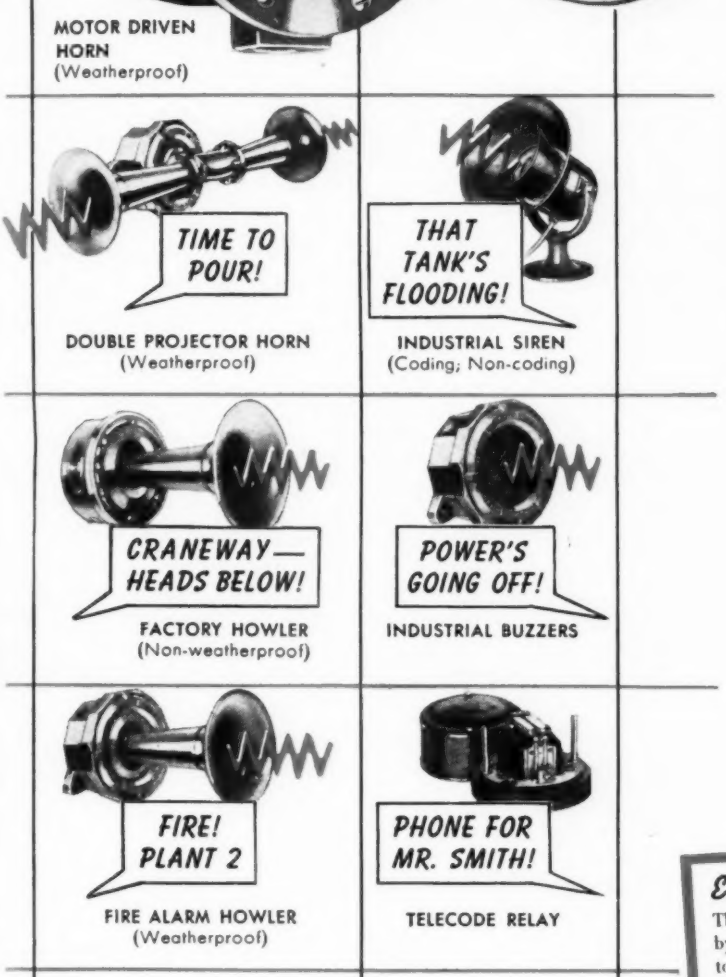


President McGraw-Hill Publishing Company, Inc.

THIS IS THE 54TH OF A SERIES

They Warn, They Page, They SAW Through ANY Din!

The unique, wide-range, high-frequency note of a Benjamin Signal (red sonograph curve above) makes itself heard through any industrial racket, monotonous or varied. Typical industrial noises are shown as black curves in diagram above.



MOTOR DRIVEN HORN
(Weatherproof)

DOUBLE PROJECTOR HORN
(Weatherproof)

INDUSTRIAL SIREN
(Coding; Non-coding)

FACTORY HOWLER
(Non-weatherproof)

INDUSTRIAL BUZZERS

FIRE ALARM HOWLER
(Weatherproof)

TELECODE RELAY

FOR executive paging—To locate quickly the men whose duties take them through the plant.

FOR telephone signaling—where noise drowns the phone bell.

FOR alarms and warnings—calling guards or firemen to the right place, for warnings of overflow, breakage and interruptions.

FOR time signaling—process-flow notices, hours-of-work signals.

One of these days, one slight accident to men or equipment will far more than overbalance the cost of a Benjamin Signal installation. Too, a Benjamin Signal installation cuts out the perpetual confusion, delay and annoyance of hunting for wandering, wanted personnel...a real contribution to operating efficiency.

You need such a system, you need *THIS* one, because the attention-getting voice of a Benjamin Signal can be depended upon to saw through any industrial noise; to produce a sound volume that is audible over a large area; and to be ruggedly constructed and especially designed for industrial and commercial service.

2046 WS

Benjamin signals are listed by the Underwriters' Laboratories. They are available for A.C. or D.C. operation, in a wide range of voltages and cycles. Many can be had with choice of Double or Single Projectors.

A feature of Benjamin Vibrating Horns and Buzzers is the ease of servicing due to their unique construction which permits removal of the entire operating mechanism without touching the wiring.

Benjamin Telecode Relays are specially designed for connecting horns to telephone ringer circuits to replace bells in noisy locations where telephone bells can not be heard. For complete data, write for Bulletins.

Electrical Wholesalers!

This advertisement is scheduled to appear in leading trade magazines read by your customers. Many of them will appreciate your calling their attention to needed replacements or additions to existing systems or to the advantages resulting from an installation of a complete new system. ***Consult your Benjamin catalog*** for complete listings and descriptions of the above signals and other devices.

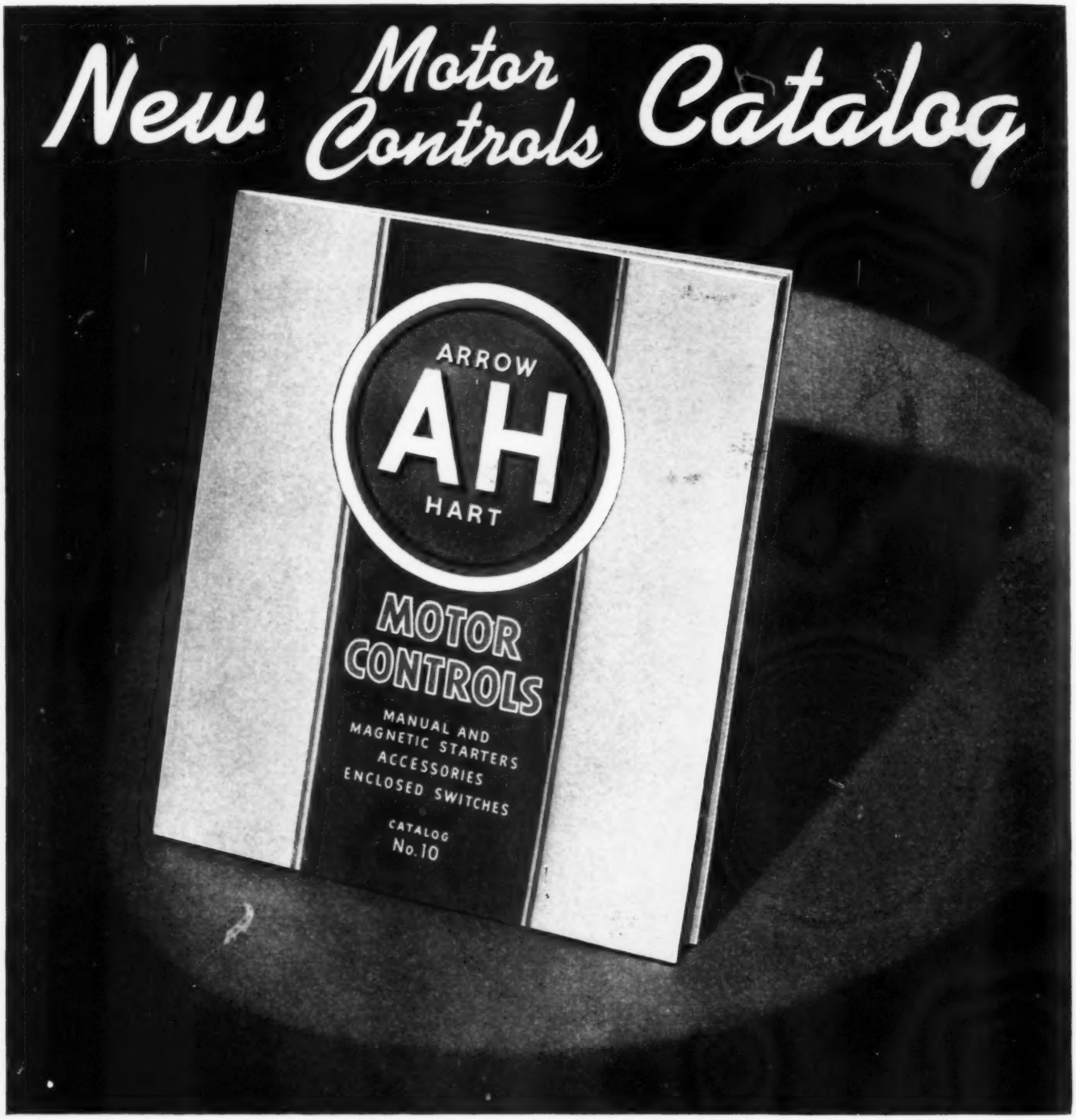
Benjamin Electric Manufacturing Company, Dept. GC, Des Plaines, Illinois

BENJAMIN

SIGNAL AND ALARM SYSTEMS

Distributed Exclusively Through Electrical Wholesalers

New Motor Controls Catalog



Send this Coupon

for your up-to-date listings of Motor Controls, — Manual and Magnetic Starters, Push Button Stations and Enclosed Switches, — including basic *new principle* Magnetic Controls, just out!

To Industrial Control Division, Arrow-Hart & Hegeman Electric Company, Hartford 6, Conn.
Send your new 124-page MOTOR CONTROLS Catalog No. 10 to

(*Name*)_____

(*Company*)_____

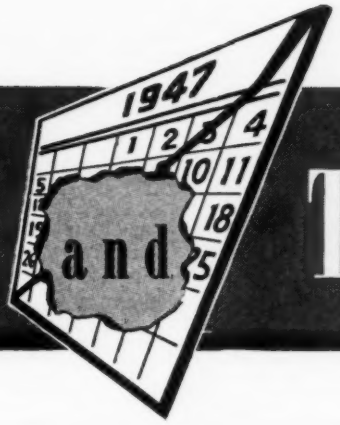
(*Address*)_____

(*City & State*)_____

INDUSTRIAL CONTROL DIVISION

THE ARROW-HART & HEGEMAN ELECTRIC COMPANY, HARTFORD, CONN., U. S. A.

TIMES and TRENDS



Rewire and Relight America *Adequately*

In our April 1946 issue the above slogan was offered as the rallying cry for what might be made an industry-wide campaign. Unfortunately extensive strikes, price controls and critical shortages of important materials obstructed progress in that direction.

Now, in January 1947, many of the most serious obstacles have been either removed completely or are being overcome rapidly and so ELECTRICAL WHOLESALING's continuing campaign to rewire and relight America *adequately* is being launched in this issue.

Henceforth in every issue we will publish editorial feature material that is designed to alert the salesmen of the electrical wholesaling industry to the exceptional sales opportunities that lie ahead. We propose to focus attention upon specific markets for rewiring as well as relighting and the need of *adequacy* of wiring will be stressed throughout the campaign.

Conscious of the state of interdependence that makes the value of this effort to the electrical wholesaler depend to a considerable degree upon the assistance and support that is received from other branches of the electrical industry we invite and urge their earnest cooperation.

It must be remembered that this campaign holds tremendous sales-building potentials as it will occur when more than ever before, the public, home owners, store keepers, building and institution's superintendents, factory engineers and production managers are more conscious than ever before of the urgent need for bringing lighting and power installations up to the high standards that our war activities have established.

Furthermore the campaign will coincide with what is expected to develop into the greatest period of new building construction that the country has ever seen.

Nevertheless, even if the widely advertised building schedule of 1,000,000 homes per year for ten years were realized, the wiring of new homes would represent as of 1947 only one-thirtieth of the sales potentials that are represented in our 30,000,000 *under*-wired and *under*-lighted dwelling units.

Even if during the expected building boom one new retail store were built in addition to each ten now existing (which would mean 170,000 new stores), of the 1,700,000 already in business approximately 1,500,000 would still need rewiring and relighting to take them out of the gloom of electrical obsolescence.

You can go down the entire list of potential markets for electrical products, such as homes, stores, buildings, factories, hospitals, hotels, institutions, public buildings and schools, and for every single *new* unit that may be built during the ensuing building boom, there are ten or more already existing units that are from 75 to 98 percent OBSOLETE ELECTRICALLY.

We know that the electrical industry will take the sales of the wiring, lighting and appliances for equipping the *new* structures that will rise during the next few years in its stride and without much excitement. Probably it will have them pitched into its lap whether it works for them or not, and probably at prices that will leave much to be desired.

The nature of the electrical wiring and lighting and equipping of those new structures under existing competitive conditions and prospective costs of labor and other materials will probably represent all too little advancement toward complete adequacy and will leave much to be desired. Thus even a large percentage of the new structures can be expected to be markets for more wiring and lighting and appliances.

Obviously then, whether graded according to volume of possible sales, or number of possible buying units, or on the basis of financial soundness of the prospective buyer, THE GREATEST IMMEDIATE SALES POTENTIALS FOR EVERY BRANCH OF THE ELECTRICAL INDUSTRY LIE TODAY IN SELLING OWNERS OF EXISTING STRUCTURES ON THE IDEA OF REWIRING AND RELIGHTING *Adequately*.

This and succeeding issues of ELECTRICAL WHOLESALING will be dedicated to the task of gaining wider acceptance and support of the slogan that is its theme: Rewire And Relight America *Adequately*.

★

Our Cover When a wholesaler supplies a cover picture for his industry's leading magazine, that to us is as much news as when a man bites a dog — because in our experience both events appear to have been equally rare.

Fortunately there are some wholesalers who don't mind telling the other fellows what they are doing to advance

He writes only in RED INK!

INADEQUATE WIRING, the industrial jinx, embezzles millions every year. It would take quarts of red ink to record the toll he takes in unproductive wages, lost production and spoilage.

For, when he attacks, through overloaded, over-extended, obsolete wiring, efficiency can drop from 25 to 50 percent.

To shut out this costly scribe, talk to your plant power engineer, consulting engineer, electrical contractor or power salesman.* They can write him off... before he gets into your books.

47434

Because adequate wiring is basic ... and affects everyone in our industry ... Anaconda continues to promote this idea in a wide list of national magazines.

*WIRE AHEAD, a new booklet discussing preventive maintenance... the symptoms of inadequate wiring... and presenting plans for anticipating electrical demand, is now in preparation. We shall be glad to send it on request as soon as it is available.

ANACONDA
from mine to consumer

ANACONDA WIRE & CABLE COMPANY

the industry's and through it their own interests, and one of those is our friend, R. A. Stott, president of the Tri-State Electrical Supply Co., Inc., of Hagerstown, Maryland.

It seems that Hagerstown's citizenry is proud of its community and its progressive spirit and likes to stage parades as an outlet for its pride. Every year they have a Halloween parade which brings out the people of the city and from the country side near and far. However in 1946, for good measure, they followed up the Halloween event with an Armistice Day parade, staged by the local American Legion Post as a "Welcome Home" greeting to veterans of World War II.

Evidently our friend Stott and his staff are determined to build up as fine a sales record in the post-war period as they scored an enviable sales and service record to industry during the war and quite appropriately they have chosen the Adequate Wiring Campaign of the electrical industry as one of the vehicles for promoting peacetimes sales.

It so happens, that the editors of ELECTRICAL WHOLESALING are in complete agreement with that idea because in the editorial theme REWIRE AND RELIGHT AMERICA *Adequately* which will be carried through all the issues of 1947, the Adequate Wiring campaign has an important place.

Hence, when Tri-State once more decided not to "hide its light under a bushel" and sent us a set of fine photographs of the 24-feet long "Adequate Wiring" float which its staff had designed, supervised and "manned" for those two Hagerstown parades, the editor's long-wanted opportunity for carrying a wholesaler-sponsored *news* picture on a cover was at hand.

We compliment Mr. Stott and his staff on having conceived and excellently executed a fine piece of promotion in behalf of an industry-wide sales-building activity, and — we hope that, since one progressive wholesaler has finally "made" the cover position of ELECTRICAL WHOLESALING, other wholesalers will try for winning the same distinction. But, fellows, remember, it has to be a *news* picture of general industry interest and — it must be a clear, sharp photograph.

Who is going to be the next wholesaler to be admitted to our most-exclusive The Cover Picture Club?

★

Declaration of Independence In his N.E.W.A. News Notes of this month Mr. Alfred Byers, Secretary of the National Electrical Wholesalers Association has elected to go on record (Page 101, this issue) to the effect that he does not receive any compensation from this magazine for providing that material.

To us the idea of paying "Al" Byers a fee for the news notes which he supplies in the course of his duties as a full-time staff member of the Association has never occurred and the suggestions that some such payments may have been made seems too repugnant to deserve notice here.

Yet, the fact that Mr. Byers must have had good and sufficient reasons for publishing a denial, justifies the conclusion that in some quarters misunderstandings regarding this matter do exist. If that is so, then it becomes quite necessary that ELECTRICAL WHOLESALING, as one of the parties involved, also should state its position, which is as follows:

(1) ELECTRICAL WHOLESALING is wholly owned by the McGraw-Hill Publishing Co., Inc. and is not the official organ of any association or organization.

(2) ELECTRICAL WHOLESALING is dedicated to the task of strengthening through the cultivation of better salesmanship the position of the electrical wholesale distributor as the most efficient and most economical channel for selling and distributing electrical products at wholesale to local users throughout the United States.

(3) ELECTRICAL WHOLESALING believes that its basic objectives run parallel with the declared objectives of many local, regional or national associations, clubs or groups that work for the advancement of the electrical industry, and that includes of course the National Electrical Wholesalers Association.

(4) ELECTRICAL WHOLESALING regularly solicits by mail every electrical association, club, league or other regularly organized group of which it has a record and invites periodical contributions of news, reports on organization activities or photographs of special events and publishes as much or as little of the accepted material as its editors consider suitable and space permits.

(5) ELECTRICAL WHOLESALING has not, in the past and will not in the future, pay any organization nor any paid employee of an organization directly or indirectly for any material it publishes pertaining to cooperative activities within the electrical industry.

★

Two Dates Every wholesaler who is interested in the group activities of his industry and, who wishes to take full advantages of the sales opportunities that lie ahead, should put two dates on his calendar as marking events that he must attend, in fact that he cannot afford to miss.

The 38th annual convention of the National Electrical Wholesalers Association will be held at the Traymore Hotel, Atlantic City, May 4th to 8th, 1947.

The 2nd International Lighting Exposition and Conference, sponsored by the Industrial and Commercial Lighting Equipment Section of the National Electrical Manufacturers Association is scheduled for November 3rd to 7th at the Hotel Stevens, Chicago.

And — don't forget to make your hotel and transportation reservations early, because record-breaking attendance is already assured for both events.

EDITOR

FEDERAL Type MO 4

Thermal Magnetic

2 way Circuit Protection

Thermal

Magnetic

MULTI-BREAKER

Magnetic trip operates in a fiftieth of a second or faster, even on minor shorts. *Thermal* bi-metal element provides time-delayed tripping on moderate overloads. That's *THERMAL-MAGNETIC* Protection . . . built into Federal's new Type M04—the smallest, lowest-priced, most efficient Multi-breaker ever produced.

● 4-pole range ● For flush or surface mounting ● Only 5 1/16" x 7 3/16" x 2 7/8" ● Wire ratings 15, 20, 30 amp. ● Ideal wherever two lighting or appliance circuits and a small electric range circuit are needed . . . or where four lighting or appliance branch circuits are needed.

FEDERAL ELECTRIC PRODUCTS COMPANY—Executive Offices: 50 Paris Street, Newark 5, New Jersey. Plants: Hartford, Connecticut; Newark, New Jersey; St. Louis, Missouri.

Federal NOARK

Write for Bulletin No. 154

Federal NOARK
INDUSTRIAL CONTROLS

FEDERAL ELECTRIC PRODUCTS COMPANY, MANUFACTURERS OF A COMPLETE LINE OF ELECTRICAL PRODUCTS INCLUDING:
MOTOR CONTROLS, SAFETY SWITCHES, CIRCUIT BREAKERS, SERVICE EQUIPMENT, PANELBOARDS AND SWITCHBOARDS

ELECTRICAL WHOLESALING News

F H A Announces New Moves To Boost Housing Program

FHA officials intend to drive housing program through to success. Extend mortgage maturities to bring lower carrying charges and rents. Commissioner Foley announces other moves

WASHINGTON — Federal Housing Administration officials are determined that the government's housing program shall succeed in 1947 and reach its goal. To this end, FHA Commissioner Raymond M. Foley recently announced a number of moves which it is hoped will stimulate production of housing for veterans.

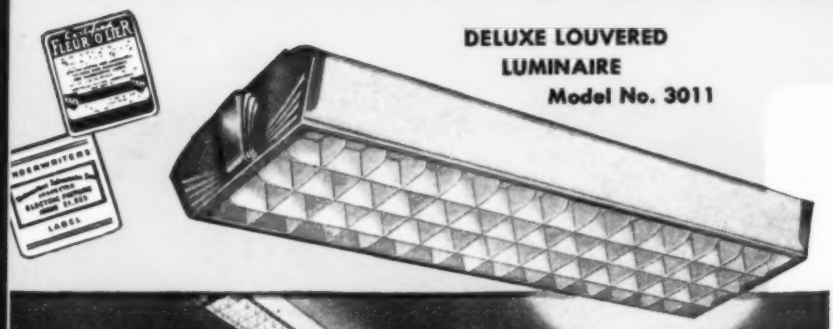
In order to bring lower rentals, a reduction has been made in monthly carrying charges on financing on new multiple housing projects. The lower carrying charges and rents will result from extension of mortgage maturities by five years or more under a new amortization formula.

Other steps announced by the FHA included: A broadening of eligibility standards for insurance of mortgages covering veterans' housing under Title VI of the National Housing Act. This largely affects types of construction and architectural design heretofore not eligible, with emphasis placed on small rental structures. Mr. Foley announced that the FHA will provide a mechanism for adjusting the amounts it will commit to insure in order to remove uncertainty of the adequacy of commitments for financing rental projects in a period of fluctuating construction costs. Also, the FHA is exploring various devices aimed to provide protection against the possibility of decreased earnings from rental housing projects after the shortage is relieved.

In announcing the foregoing action, Mr. Foley pointed out that the new housing permit regulation of the Housing Expediter, Frank Creedon, provides that a sponsor, although not a veteran, may occupy a dwelling unit in a two-family or multiple dwelling owned by him in which he intends to rent other units to veterans. This provision will expand considerably the amount of rental housing of the two, three and four-family types, Mr. Foley said, by enabling small builders to construct such dwellings and to sell them to small investors to operate as rental housing.

"I am confident these steps will help stimulate rental housing development in 1947," Mr. Foley said. "Other administra-

NEW electrical wholesaling house in Salt Lake City, Utah is the Vance Electric Supply Company. Owner Kimball Vance, (left photo) formerly operated a contracting business. Right photo: Vance Electric Supply Company offices at 1063 So. State Street, Salt Lake City. Center photo: Recently remodeled modern display room in Vance building.



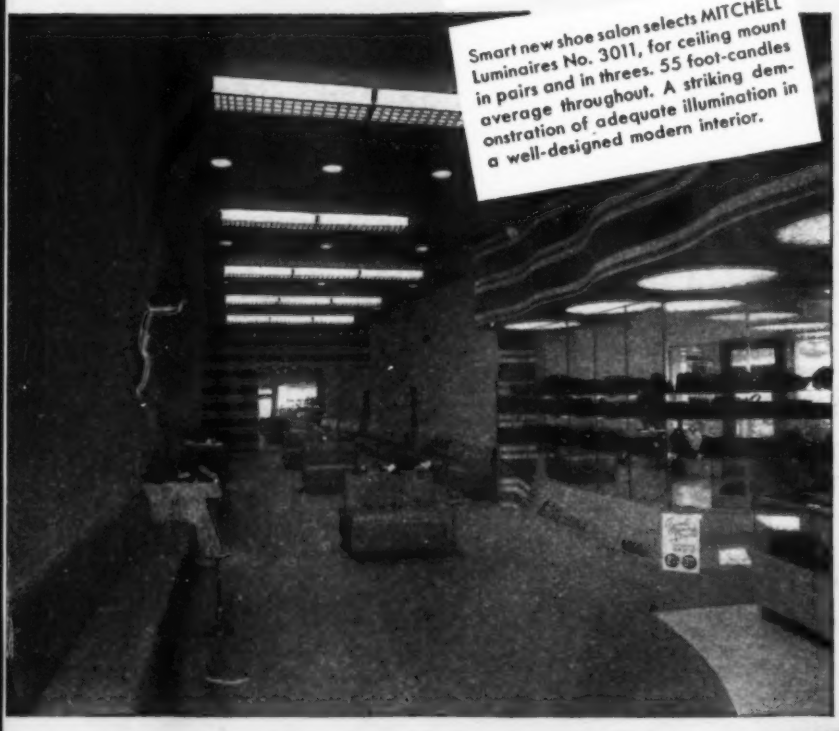
DELUXE LOUVERED
LUMINAIRE
Model No. 3011

Better Light for Better Business

..by

MITCHELL

Modern radio and appliance shop, Chicago, features MITCHELL DeLuxe Louvered Luminaire No. 3011, in continuous row mount. 55 foot-candles average, maintained. Note the no-glare, evenly diffused illumination.



Smart new shoe salon selects MITCHELL Luminaires No. 3011, for ceiling mount in pairs and in threes. 55 foot-candles average throughout. A striking demonstration of adequate illumination in a well-designed modern interior.

Better light by MITCHELL is building better business for these progressive shops as well as for sales-minded businesses everywhere. MITCHELL-engineered Luminaires deliver "selling" light . . . abundant high-level illumination, skilfully shielded for glareless, natural effects. MITCHELL Luminaires create and maintain a "sales atmosphere" that attracts customers, puts appeal into merchandise, makes it more desirable and easier to sell. That's why progressive businessmen prefer MITCHELL Commercial Lighting.

This tremendous user acceptance builds better business for the wholesaler. MITCHELL sales are clean, package transactions—trouble-free volume business. MITCHELL installations are easy, smooth jobs for the contractor—time-saving, profitable business. And utility men find in MITCHELL installations the high-level, properly diffused illumination recommended for really adequate lighting. From every angle, MITCHELL is Better Light for Better Business . . .

MITCHELL

Mitchell Manufacturing Company
2525 CLYBOURN AVENUE, CHICAGO 14, ILLINOIS
Far West: *Complete Modern Plant and Sales Office at Los Angeles*
Serves the Entire Pacific Coast Area
1019 NORTH MADISON AVENUE, LOS ANGELES 27, CALIFORNIA

Makers of Commercial and Industrial Fluorescent Lighting Equipment
Store Window Lighting • Spotlights and Floodlights • Desk Lamps • Portable Floor and Table Lamps • Bed Lamps • Ultraviolet and Infrared Health Lamps • Residential Lighting Specialties . . . Rad-I-Air Germicidal Units (made by Tru-Air Ultraviolet Products Co., Los Angeles)

tive aids, not requiring legislation, designed to encourage builders in the rental field will be announced as they are determined."

Buffalo Electric Opens New Addition To Building

BUFFALO, N. Y.—The Buffalo Electric Co., Inc., electrical distributing firm, has completed a two-story addition to its building at 75 W. Mohawk Street, Buffalo at a cost of approximately $50,000. Company officials said the expansion was made necessary by a growing volume of business.

The entire ground floor of the structure is devoted to garage space, housing the company's numerous trucks and service vehicles. The upper floor is devoted entirely to office space.

Buffalo Electric also announced the appointment of Richard G. Harper as supply sales manager, succeeding the late Al Sullivan. Mr. Harper has been with the firm for five years. C. O. Dean has been named apparatus manager of the company.

Management Changes Announced By Graybar

Following the December meeting of its board of directors, Graybar Electric Company, New York, announced the following changes in its management.

Herbert Metz was appointed a member of the executive committee effective January 1, 1947. Mr. Metz will also take over the duties of Eastern district manager at New York on the same date.

A. C. Lamperti was elected a director and member of the board. Mr. Lamperti was named secretary and comptroller of Graybar in 1943 and will continue these same duties in conjunction with his directorship.

H. L. Harper, Pacific district manager at Los Angeles, was designated a voting trustee. Mr. Harper joined the company in 1903. He replaces W. J. Drury of New York in this capacity. Mr. Drury, who was Eastern district manager is retiring on a service pension after over 42 years of continuous service.

At the same time, A. H. Nicoll, president of Graybar, announced that Arthur G. Faul, who was Ohio Valley district credit manager, has been moved to the Philadelphia office as Atlantic district credit manager. M. H. Anderson, who was appointed acting district credit manager in November 1946, has taken Mr. Faul's place as Ohio Valley district credit manager.

Mr. Faul will replace E. W. Wolfstyn who is retiring as Atlantic district credit manager after more than 36 years of service with the company.

Electrical Industry Manages To Break Records In 1946

Despite hectic year electrical industry establishes records for number of consumers, power output and sales volume

ALTHOUGH 1946 has been described as one of the most hectic and discouraging years in the history of American business, certain very encouraging records were established in the electrical industry which wholesalers should note in making present and future plans.

The final figures for 1946 will probably show that there are now over two million more consumers of electricity in the United States. Edison Electric Institute estimates that consumers will total 36,100,000 in 1946 —as against a total of 33,048,000 in 1944 and 34,031,000 in 1945. The government's housing and REA programs for 1947 would seem to indicate that this total will rise even more.

Record Output

Paralleling the large gain in electrical consumers in 1946 were the record-breaking peaks that electric power output reached. The highest weekly peak recorded in 1944 was 4,616,975,000 kw.-hr. and in 1945 electric output reached 4,614,334,000 kw.-hr. During one week of December, 1946 electric production reached 4,940,453,000 kw.-hr. — a new high record.

It is probable that this output will reach even higher peaks in 1947. What this means to the electrical wholesaler and his salesmen can be added up as follows: More consumers of electricity plus more power output (and per capita consumption) equals more sales opportunities.

Sales Index High

A third key figure for distributors in planning programs and activities for the new year is the sales volume index figure collected and compiled by the U. S. Department of Commerce and published in Electrical Wholesaling.

In 1944, this monthly index figure reached 126. In 1945 total volume of sales read 196. The latest monthly figure published for 1946 shows that wholesalers sales volume

(*Continued on page* 103)

GRAYBAR Electric Co., Tacoma, Washington is the address for this group. Left to right: John Reine, manager; J. G. Gillespie, operating manager; F. T. Farrell, warehouse foreman; J. B. Rawlings, selector; O. M. Pedersen, office salesman; Mary Haire, order writer; Sonja Andersen, stenographer; Ralph Cline, selector; John Anderson, packer; G. E. McMaster, selector; C. A. Moon, salesman; T. H. Challman, appliance salesman. Edna Wilson, stock maintenance and Carl Mann, office salesman were absent when picture was taken.

DEPENDABLE

"I told him (Gouverneur Morris) that I should certainly make no terms: should never go into the office of President by capitulation, nor with my hands tied by any conditions which should hinder me from pursuing the measures which I should deem for the public good."

Thomas Jefferson

Thomas Jefferson arriving in Washington to take charge of the United States Government.

—*The Bettmann Archive*

4th in a series on Thomas Jefferson, Third President of the United States.

Always ready to serve his country, Thomas Jefferson could be *depended* upon to do what was best for the majority while at the same time considering the "equal rights" of the minority who, as he said, "equal laws must protect."

This quality of *Dependability* which made of Thomas Jefferson a respected and trusted bulwark of American Democracy, has long been accorded its proper importance at the Jefferson Electric Company.

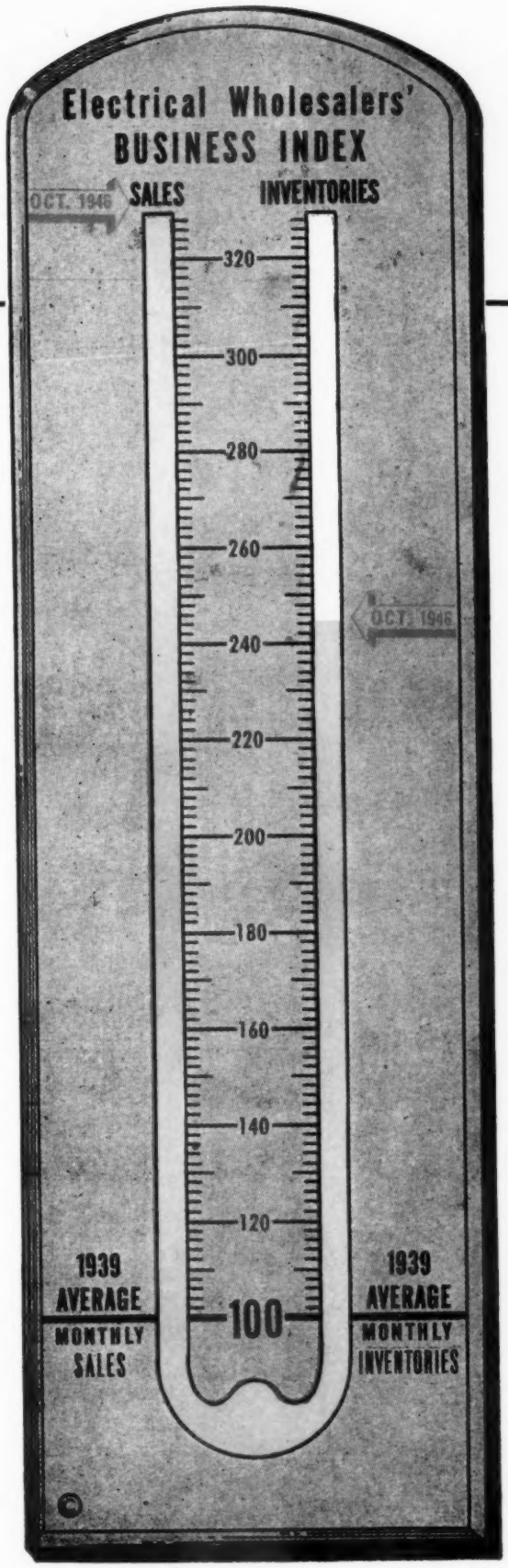
***TRANSFORMERS:** Power Circuit, Mercury Lamp, Oil Burner Ignition, Control, Bell Ringing, and Luminous Tube.*
***FUSES:** Jefferson-Union Renewable Fuses, Super-Lag, and Non-Renewable. BALLASTS for Fluorescent Lamps.*

JEFFERSON ELECTRIC COMPANY

BELLWOOD, ILLINOIS (*Chicago Suburb*)

In Canada: Canadian Jefferson Electric Co., Ltd., 384 Pape Ave., Toronto, Ont.

JEFFERSON ELECTRIC



SOURCE The figures we use as basis for these monthly comparisons of performance in the electrical wholesaling field are collected and compiled by the Bureau of the Census of the U. S. Dept. of Commerce.

ELECTRICAL WHOLESALING

FORMERLY WHOLESALER'S SALESMAN

Business Index

For the Month of October 1946

SALES Breaking record after record, sales of electrical goods by wholesalers in October 1946 continued to increase, reaching, in dollar volume, the all-time high of 330 percent of the 1939 average monthly volume. This brought wholesalers' sales to a point more than 50 percent higher than the largest month of the war period. Compared to the previous month, sales in October were up 11 percent; compared to the same month of 1945, October sales had increased 131 percent.

With goods flowing from manufacturers to wholesalers in ever increasing amounts, and with the overall increase in prices — expected to level off at about 25 percent above the OPA ceiling levels — another substantial increase in dollar volume of sales can be expected to show up, first in the November index, which will represent two weeks of price decontrol, and then with nearly full effect in the wholesalers' sales volume reports for December, unless the slackening of dealers' appliance sales, now reported from some districts, should make itself felt.

INVENTORIES With a 9 percent gain over the previous month's record high level for inventories, wholesalers' stocks of electrical goods were reported in October at 245 percent of the 1939 average monthly level.

Almost every type of electrical materials and supplies were flowing into the wholesalers' warehouses in increasing quantities — many appliances in larger volume than ever before, but — the other items, the critical ones, still were slow, although arriving in more encouraging, if not satisfying quantities.

Faced with a backlog and a market potential greater than for almost every other group of wholesalers, the electrical supplies jobber was not yet approaching the inventory saturation already serious in some parts of the soft goods field and evident in some of the durable goods.

COLLECTIONS The collection percentage for October 1946 was 99, two points above the figure for the previous month, and six points above the collection percentage for October 1945. Accounts receivable in October 1946 were 14 percent ahead of the previous month, and 104 percent above the accounts receivable for October 1945.

CONFIDENCE..

Manufacturers of Wire Rope and Strand • Fittings • Slings • Screen, Hardware and Industrial Wire Cloth • Aerial Wire Rope Systems
Hard, Annealed or Tempered High and Low Carbon Fine and Specialty Wire, Flat Wire, Cold Rolled Strip and Cold Rolled Spring Steel • Ski Lifts

. . . . how much is it worth?

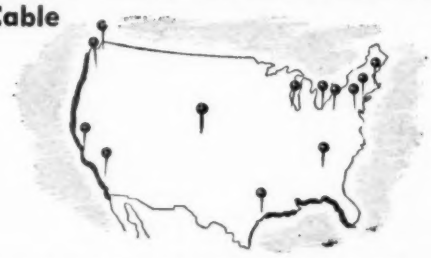
IN 1841, two years before the first telegraph line was installed in this country, and when there were but 27 states in the Union, John August Roebling was inspired with the idea of making a new kind of rope of unheard of strength and flexibility. His confidence in his idea caused him to risk everything he had on the development of his new rope.

How much is his confidence worth to Industry today, which couldn't turn a wheel without the modern wire rope?

Today, the John A. Roebling's Sons Company invests much time, effort and money in the development of improved products to keep alive the confidence of its many customers.

Roebling values this confidence as its greatest asset. That's why it offers you the greatest value for every dollar you invest . . . in *any* Roebling product.

You get SERVICE from Roebling Branch Warehouses . . . to back your sales of Electrical Wire and Cable



Wherever you are, there's a Roebling branch warehouse within easy reach . . . and at your service. Adequate stocks of standard electrical wires are now being accumulated to give dependable, efficient action on every one of your orders.

You can call on Roebling Field Engineers, too, for specialized technical help on knotty problems. That can save money for your customers . . . a *real* sales extra. And, month after month, big, double-page color advertisements keep hammering away—telling them of the dependability of Roebling products.

JOHN A. ROEBLING'S SONS COMPANY
TRENTON 2, NEW JERSEY
Branches and Warehouses in Principal Cities

"BRANCHES AND WAREHOUSES IN PRINCIPAL CITIES . . ."

Atlanta, Ga. . . . . 934 Avon Avenue
Raymond 2151
Boston 10, Mass. . . 51 Sleeper Street
Lib. 4373
Chicago 6, Ill. . . 600 W. Jackson Blvd.
Rand. 1971
Cleveland 14, Ohio . 701 St. Clair Ave., N.E.
L.D. 249 & Main 5030
Denver 17, Colorado . 1635 Seventeenth St.
East 2684
Houston 1, Texas . 6216 Navigation Blvd.
Woodcrest 6-8316
Los Angeles 54, Calif. . 216 S. Alamenda St.
Trinity 1261
New York 6, N. Y. . . 19 Rector Street
Wh 3-5200
Philadelphia 7, Pa. . . 16 S. 12th Street
Market 2751
Pittsburgh 12, Pa. . 855 W. North Avenue
Fairfax 2766
Portland 9, Ore. . 1032 N.W. 14th Avenue
Broadway 5456
San Francisco 1, Calif. . 1740 17th Street
Market 8787
Seattle 4, Wash. . 900 First Avenue, South
Main 4992

Electrical Wire and Cable • Suspension Bridges and Cables
Aircord, Aircord Terminals and Air Controls • Lawn Mowers

ROEBLING

A CENTURY OF CONFIDENCE

Electrical Wholesaling BUSINESS INDEX

REGIONAL ANALYSIS

SALES of electrical goods in October 1946 were distributed fairly evenly throughout the nine groups of states, considering the many local factors that generally tend to prevent any consistent nationwide market condition.

Noticeable in the last three months has been a trend toward higher month-to-month sales gains in the northeast section of the country. The index for October shows that the above-average gains were made in the New England, Middle Atlantic, East and West North Central and the adjoining West South Central States.

This may indicate that the relatively peaceful months of the summer and early fall, following the strike-bound months of last winter and spring, have given industry in the East a chance to establish fuller production, with resulting increased demands on the wholesalers there. Wholesalers in the South and West are not feeling the same above-average increases because their customers were less affected by the strikes during the early part of the year and have enjoyed a more consistent flow of orders.

The inventory picture in October, showing a nationwide gain of 9 percent, reflects a rather uneven distribution of goods among the groups of states. This condition, however, was not unlike the picture presented in the wholesalers' inventory reports for the last several months, except that different regions showed the higher monthly gains. These variations may spring from the fact, that the manufacturers have been forced to utilize all available shipping space to best advantage and found it desirable to ship large lots to one area at a time rather than spreading thin their supplies by splitting them into numerous small shipments.

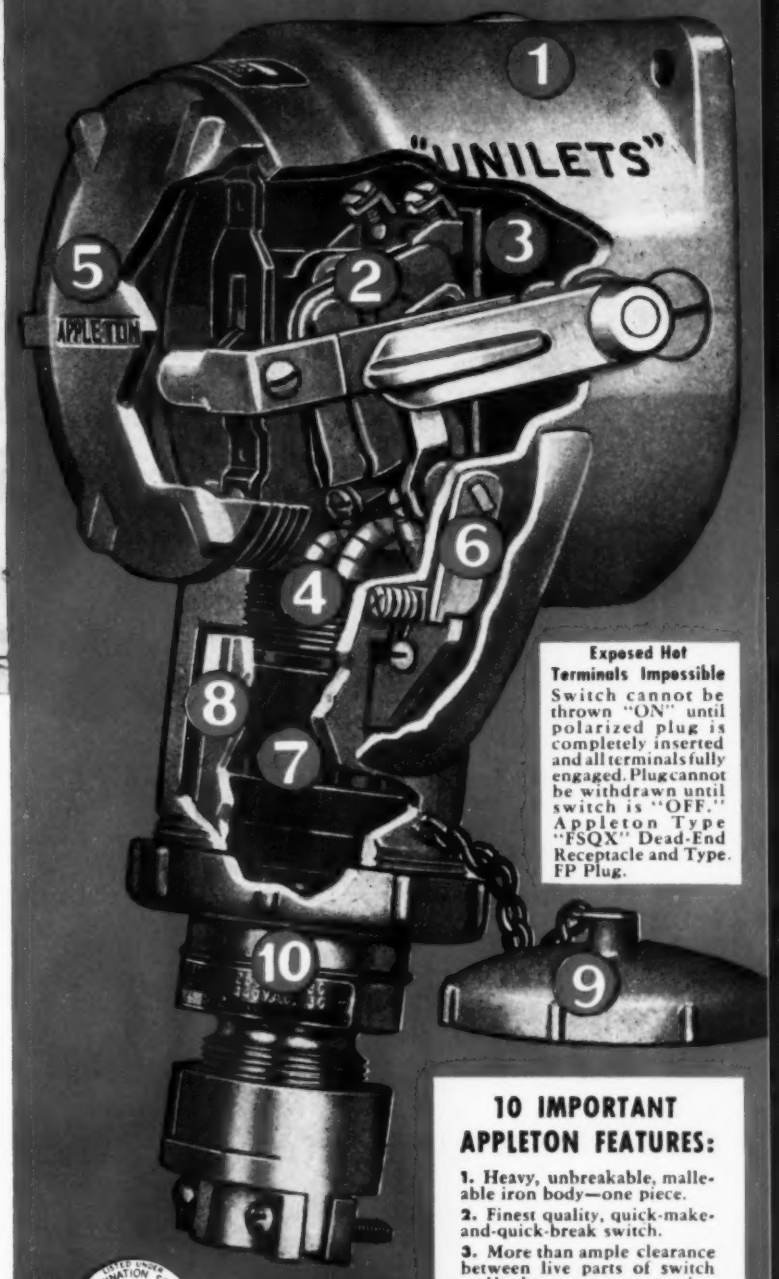
OCTOBER, 1946

Figures in this table apply to the geographic divisions as outlined and numbered in color on map above

SALES October 1946 Compared in % with Sept. 1946	SALES October 1946 Compared in % with Oct. 1945	Trading Region (See Map)	INVENTORIES October 1946 Compared in % with Sept. 1946	INVENTORIES October 1946 Compared in % with Oct. 1945
119	223	1	91	201
115	214	2	109	237
111	246	3	113	258
113	233	4	110	246
106	224	5	102	193
115	209	6	107	258
104	211	7	111	219
105	227	8	122	240
111	264	9	113	217
111	**231**	For **U.S.A.**	**109**	**229**

With production by electrical manufacturers reaching new heights, and the shipping problem expected to be alleviated, particularly during the non-crop moving months of late fall and winter, the time may not be far away when inventories must be watched closely to avoid excessive investments.

Take No Chances



Exposed Hot Terminals Impossible
Switch cannot be thrown "ON" until polarized plug is completely inserted and all terminals fully engaged. Plug cannot be withdrawn until switch is "OFF." Appleton Type "FSQX" Dead-End Receptacle and Type FP Plug.

Protect HAZARDOUS LOCATIONS with APPLETON Explosion-Proof Equipment

Don't run the risk of costly explosions and fires . . . in chemical plants, oil refineries, hospital surgeries and other hazardous locations . . . when it is so simple a matter to provide a wide margin of safety with Appleton Explosion-Proof Fittings.

Rugged, heavy-duty Appleton Explosion-Proof equipment—made of tough *malleable iron*—assures safe, dependable, efficient operation. The complete Appleton line, which includes Dust-Tight and Vaportight fittings and fixtures as well as Explosion-Proof, offers exactly the right fitting for every job. All conform to exacting code requirements, are approved by Underwriters' Laboratories.

Sold Through Electrical Wholesalers

APPLETON ELECTRIC COMPANY

1734 WELLINGTON AVENUE • CHICAGO 13, ILLINOIS

Branch Offices: NEW YORK, 50 Church Street • DETROIT, 7310 Woodward Avenue • CLEVELAND, 1836 Euclid Avenue • SAN FRANCISCO, 655 Minna Street • ST. LOUIS, 420 Frisco Bldg. • LOS ANGELES, 100 North Santa Fe Avenue • ATLANTA, 724 Boulevard, N. E. • BIRMINGHAM, 6 N. Twenty-first Street • MINNEAPOLIS, 305 Fifth Street, S. • PITTSBURGH, 414 Bessemer Bldg. BALTIMORE, 100 East Pleasant Street • BOSTON, 10 High Street • DENVER, 1530 Sixteenth Street • PHILADELPHIA, 1017 Cherry Street

Resident Representatives: Cincinnati, Dallas, Kansas City, Milwaukee New Haven, New Orleans, Seattle.

SEND TODAY . . . The complete Appleton line of more than 15,000 items is fully described and illustrated in the big Appleton Catalog. Gladly sent on request to any user of electrical fittings.

10 IMPORTANT APPLETON FEATURES:

1. Heavy, unbreakable, malleable iron body—one piece.
2. Finest quality, quick-make-and-quick-break switch.
3. More than ample clearance between live parts of switch and body—roomy, easy to wire.
4. Switch easily accessible—wiring heavily bead-insulated—terminals soldered.
5. Deep-threaded aluminum cover, locked in place by special, tamper-proof set-screw.
6. Simple, sturdy interlocking device for positive safety—completely housed, won't jam.
7. All contacts, including ground, *must be fully engaged* in order to operate switch.
8. Polarized.
9. Tight threaded cover, with rubber gasket.
10. "FP" plug with cable grip and *weatherproof* nut.

READ THESE BIG FEATURES

APPLETON

CONDUIT FITTINGS • OUTLET AND SWITCH BOXES • EXPLOSION-PROOF FITTINGS • REELITES

SHUTLBRAK SWITCHBOARDS

Make it Easy to

PLAN FOR THE FUTURE

Switchboards like everything else must keep pace. They should be planned with an eye to the future. Ⓕ Shutlbrak Switchboards make it easy not only to provide adequately for present day needs, but for future expansion as well.

Each unit of these modern, safety-type, heavy duty switchboards is self-contained, with all switch units connected to the bus bars of that section. Each has a junction box built into the top of the panel so that any number of units can easily and quickly be joined side by side or otherwise arranged to fit available space.

The Ⓕ Shutlbrak Switch, the outstanding characteristic of this switchboard, embodies the latest design and construction for a high quality heavy duty industrial switch with quick make and break connections held under compression by a tempered steel spring in the shuttle enclosure and with Ⓕ Kamklamp fuseholders. All copper surfaces are silver plated for good and lasting service. All steel parts are either made of galvanized steel, or cadmium plated. Switches are of interlocking type.

If it is high quality heavy duty switching that you need, insist on Ⓕ Shutlbrak Switchboards — the switchboard for today and tomorrow!

Ⓕ DESIGNED for FLEXIBILITY . . . Ⓕ one-piece switchboard units can be conveniently arranged — singly or grouped. Removable end walls permit adding sections to either side.

Ⓕ SECTIONALIZED for EASE and ECONOMY of INSTALLATION . . . Ⓕ assembled and shipped ready for connection of main and branch circuit cables . . . reducing installation costs. Sections readily fit together . . . with built-in junction boxes at top plus removable covers.

Ⓕ TAILORED TO MEET YOUR EXACTING REQUIREMENTS . . . Number and capacity of Ⓕ Shutlbrak Switches provided *as specified by you.*

EST. 1891 — THE SIGN OF A BETTER JOB

Frank Adam

SHUTLBRAK

FRANK ADAM ELECTRIC CO.
ST. LOUIS, MO. U.S.A.

To Rewire America *Adequately* Start With Selling Relighting

The tremendous residential building program will provide one of the most active and largest markets for the salesmen of wiring and lighting equipment for the next few years.

By Arthur W. Hooper

TWO years ago in these pages we gave as the reason why our greatest sales opportunities then still were ahead of us the fact that most of the existing installations had become obsolete. This is still true. Despite the fact that two years have passed, the market outlook has not changed very materially. Critical materials shortages, strikes and OPA controls have so greatly retarded production that the tremendous demand for lighting and wiring equipment of all kinds has been only partially satisfied. For the electrical salesman his greatest sales opportunities still do lie ahead.

Residential

With the greatest home building program in history underway, no one need advance any special arguments to prove that the residential market is and will continue to be for at least the next few years, one of the most active and largest markets for the salesman of wiring and lighting equipment.

When the program really gets to rolling it is expected to provide over one million homes a year. Meanwhile new houses are springing up all over the country. During 1946, construction on perhaps 500,000 new homes was started but only 300,000 houses

Almost every store owner, garage or filling station operator, theatre manager, druggist, beauty shop proprietor, etc. has a postwar expansion plan which includes remodeling, rewiring and relighting. The wise salesman stands ready and willing to help the operator of a commercial establishment plan a lighting layout which will be a credit to his place of business. Winnberg and Batchellor Drug Store, Jamestown, N. Y. was equipped with recessed troffers made by the Edwin F. Guth Co., St. Louis, Mo.

were completed, because strikes and shortages interfered.

The wholesaler's salesman has an important place in this great program. It is up to the salesman to represent the electrical industry by doing the best job possible under present conditions in recommending the right kind of modern electrical equipment and lighting to the construction companies and home owners. The home builder is depending on the electrical industry as represented by the salesman for such things as adequate wiring, suitable lighting, enough outlets, new and modern glareless lighting, and special lighting for his home. And above all, the home builder is depending on the salesman to equip his house with safe, efficient, serviceable lighting at a minimum cost. In future years, if the home builder finds that the electrical installation for his house was not planned to allow him sufficient outlets through adequate wiring and the most efficient and satisfying lighting, the poor service will be reflected back to the salesman and the electrical industry. Thus, it is up to the wholesaler's salesman to advise the home builder and urge him to buy the most complete wiring and the best lighting equipment for his particular house.

This is a market which has been forecast to last a number of years and is well worth any extra efforts made by the salesman. There is a large replacement service involved in the program of home building over a period of many years. The home owner will buy lamps, wiring, fuses and all kinds of appliances and accessories from the dealers and supplied by the wholesalers if the salesman sees that the groundwork is now done by selling the best electrical wiring and equipment job to the home builders.

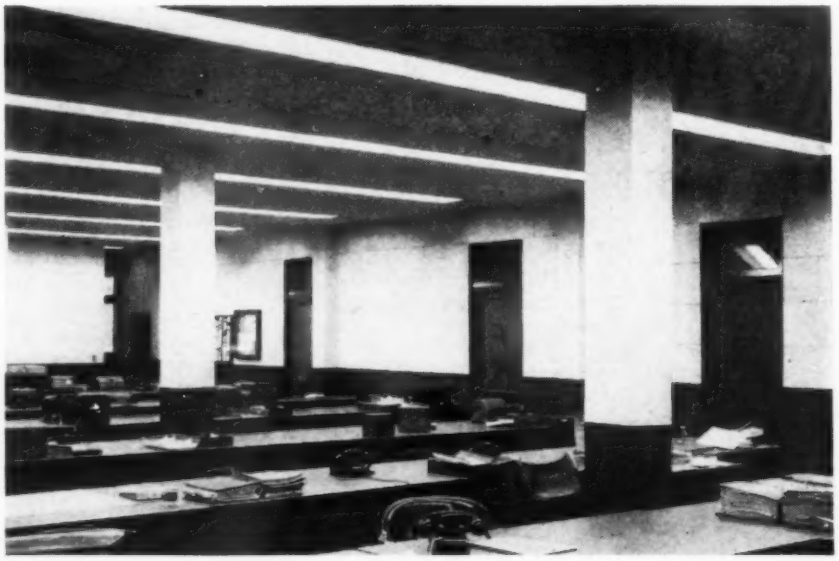
Commercial

There are over 4 million commercial buyers scattered throughout the United States with a hundred or more located in any salesman's territory. The commercial market has its program too — each individual establishment has its postwar expansion program. In this, rewiring and relighting must be made one of the major provisions for most of those plans which still are waiting for execution because materials have not been obtainable.

Offices

During the war when production was paramount in every industry in support of the gigantic war program, many firms and groups devoted much time to studies of lighting to increase efficiency and reduce fatigue on the production lines and in the offices. Those studies were made and tests conducted to help management solve personnel problems involving absenteeism, fatigue and efficiency — lighting was one of the main considerations of those studies. The facts revealed are common knowledge today and the ideas learned during the war are being incorporated in most of the current plans of managers of all kinds of establishments that use lighting.

Just prior to Pearl Harbor office rewiring and lighting was commencing to receive much attention and many offices were relighted and redecorated to add efficiency and reduce fatigue caused by poor illumination. The program was curtailed somewhat during the war as the assembly lines started turning out equipment for our armed forces.

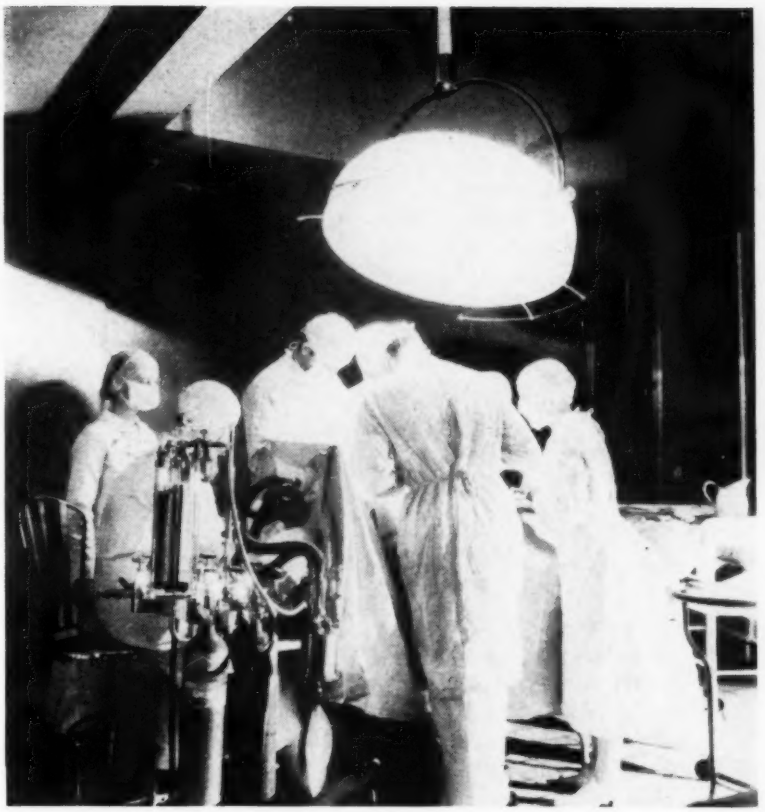


Properly wired and lighted offices mean more efficiency and less fatigue. This office of the Inland Steel Container Corp., Chicago is furnished wih fluorescent recessed lighting units made by Curtis Lighting, Inc.

Two years ago, this publication printed a statement that lighting was 80 percent obsolete in large buildings and 90 percent obsolete in smaller structures with the wiring at least equally obsolete. This is still true today. During the war many offices found that new fixtures were essential in view of increased staffs and long hours. Some were able, even with the curtailed production of lighting equipment, to obtain a few lamps and a small amount of new equipment but by no means has the market been satisfied. The salesman who has not already done so today should be lining up the office buildings and independent offices in his territory and selling them a modern, streamlined lighting installation and adequate wiring, thereby creating the obvious advantages that the offices were seeking when the war came along.

In these days of a serious shortage of office space it would pay the electrical wholesalers' salesman to plan carefully his sales presentations to the building managers in his territory.

The building manager should be acquainted with the increased attractiveness and appearance of efficiency that his office space will hold if it is adequately wired and well lighted. If the building manager can quote a prospective lessee a few statistics, furnished by the salesman, on the amount of increased efficiency and less fatigue that will result from ample wiring for office machines and the new lighting installed in his building, he, the building manager, has quite a selling point for his office space — and the wholesalers' salesman has a filled order book.



Hospitals occupy a prominent place in the institutional building construction for the next few years. Modern scientific medical equipment and methods make adequate wiring and proper lighting a necessity for hospitals. Photo by General Electric Co.

Good office lighting is a sales builder. Employees notice good lighting equipment at the office and are sold on relighting their homes. Management which finds office lighting paying dividends is more likely to have the factories and branch offices similarly equipped.

Schools

Because almost every community has plans for improving or replacing the existing school houses, schools will be an important part of the market for the wholesalers' salesman who is really working his territory during the next few years.

Coupled with the boom in school repair and construction is the fact that great strides are being made by the manufacturers of lighting, sound and safety equipment in the modern school building.

For instance, engineers have now developed electronic and other devices to maintain a constant illumination level in the schoolrooms. When the light falls below a certain footcandle level, an automatic monitor lights other fixtures in the room to bring the level to the constant 40 or whatever footcandle level is decided upon.

The great advances that have been made in lighting, sound, and safety equipment for schools makes them a worthwhile goal for the electrical salesman. Photo by Sylvania Electric Products Co.

One large American city, St. Louis, Mo., has already an active plan in operation which will provide for $27,723,550 of school construction. In a single period of ten weeks of limited construction under the CPA, that agency announced that applications had been approved totalling $21,884,007 for school construction and reconversion and $2,354,728 for repairs to existing structures, in just 12 out of the 71 CPA districts. Obviously schools represent a market which should be given top rating on any wholesalers' salesman's list for intensive follow-up for new construction, rewiring and relighting sales.

Hospitals

Competing with schools for leadership in the institutional building race during the next few years will be the hospital construction. Again, as an example of what just one large city plans to do, St. Louis, Mo. will spend $11,166,940 for new hospitals, extensions to existing buildings, new wards and clinics. Also, a recent report from the Office of Civilian Production showed that in one month $7,411,563 worth of hospital construction and renovation was approved in just 12 out of 71 CPA districts.

In the case of hospitals, adequate wiring and sufficient outlets are a necessity in view of the large amount of electrical equipment used. Adequate wiring plus intercommunicators, signalling systems and much special lighting equipment make hospital jobs a very valuable market for contractors and salesmen alike.

Public Buildings

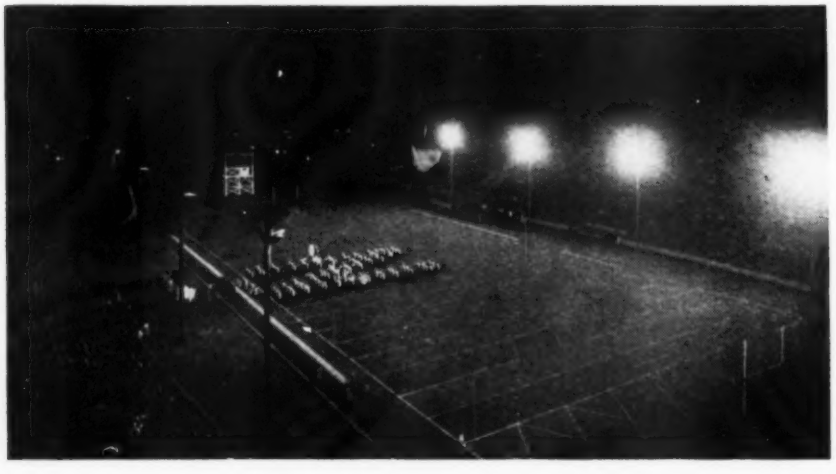
More and more relighting and rewiring is being sold for public buildings. The wholesalers' salesman who has planned his campaign for selling, today has on his list libraries, city halls, fire stations and other civic buildings—and these prospects are underlined. Like the schools, recent studies have proved that better wiring and particularly better lighting is required in the public libraries. Here, as in the schools, the reader uses his eyes for long periods and that's where lighting must be at a constant level and of good quality.

Many towns and cities were able to build up their treasuries during the war and are now ready, willing and able to redecorate, refurnish, rebuild, rewire, modernize and relight the old town hall and other public buildings.

The salesman who has taken the time to visit the city or town engineering and planning committees to learn what the city's future building and construction program is going to be is the salesman who will be in on the ground floor with his order book when these plans are put into operation. As a civic-minded citizen of his community the salesman should be anxious to see his home city lead the way in having modern civic buildings and—having up-to-date electrical wiring and lighting within these buildings is a prime essential.

Sport Lighting

The past few years have witnessed a steadily increasing popularity of night time sports events. This, because with the aid of modern floodlighting the events may be played and watched just as well as during the day, and—box office receipts are much larger at night when most people generally are not working. Even scholastic sports events are now held at night and many small schools have discovered that this is a way to put their athletic programs on a paying basis.



ABOVE—Adequate lighting in public buildings offers the aggressive salesman a very fertile market, not only for lighting fixtures, but for all the electrical supplies needed to do an adequate job of rewiring and relighting. Pittsburgh Reflector Co. photo.

LEFT—With the popularity of night sports growing by leaps and bounds the salesman will find sports promoters and school athletic committees eager to learn about high-intensity floodlighting of sports fields and arenas.

Lighting for churches must blend into the architecture and still be adequate in quantity and quality. That this can be achieved is shown in the above photo where lighting layout was planned and sold by the General Electric Supply Corp. of Charlotte, N. C.

The salesman who can show the promoters of sports events, whether professional or amateur, how a good floodlighting installation can increase attendance and more than pay for itself will be letting himself in for sizeable sales.

Church Lighting

A part of the salesman's campaign for selling lighting should be devoted to the churches in his community.

As a rule churches want soft subdued lighting in the rooms reserved for worship but modern churches with their many activities require high level lighting for Sunday School classrooms, meeting rooms, and dining halls.

Just as in the office buildings, schools and retail stores, the church should have high quality illumination for its many activities, and where a new lighting job is sold there is the place for talking rewiring too.

Airports

One need only pick up the daily paper to see how airports and commercial air lines have multiplied since the end of the war.

Faster and better service covering great distances, has brought the air line business to the front today as one of the most hopeful of all young industries.

The large number of new and old companies with sanctioned routes need station facilities for their many planes and crews as well as passengers.

Many airports have been planned or built since the end of the war and these airports need lighting; floodlighting for the landing fields, lighting for hangars, shops and service facilities, office lighting, lighting for waiting rooms, control towers, restaurants, entrances and exits. In metropolitan New York a recent survey disclosed that four new major airports will be required in the next few years.

Retail Stores

A considerable part of the salesman's time will be spent selling lighting to owners of large retail stores and for contractors who specialize in commercial wiring and lighting. Because there are over 1.7 million retail trade establishments in America (and more starting every day) there are many such places located within easy reach of any salesman.

Retail store lighting has always been a fertile field for the smart lighting salesman and will continue to be. Here is a place the salesman can really talk turkey — if he remembers that he is talking to another salesman.

Chances are the store owner will not be as interested in how carefully the salesman's products were planned and engineered as he will be in knowing first how the lighting will increase sales for the products in his store. The wise salesman stands ready to show the grocer, druggist, filling station operator and others how lighting will increase their sales for the wise salesman will have prepared his campaign carefully before going after the retail store owners. Then, after relighting is sold it is time to get the contractor busy on selling a rewiring job too.

Well-lighted garages can do a better

Round-the-clock operation of municipal and private airports and the fact that many new airports are planned or are under construction opens up a market for high priced lighting units that are specially designed for airport installation. American Airline photo.

job of repairs with high levels of lighting. Clothing stores can sell more if lighting brings out the better qualities of the fabrics and colors. Gas stations and roadside stands must pull the motorist in off the highway with attractive floodlighting.

A brilliantly-lighted parking space will draw more cars than the gloomy lot. Restaurants, hotels, taverns depend on lighting for that comfortable, cheery look and showing off attractive decorations. Beauty parlors and barber shops look cleaner, smarter if well lighted. Foods catch the eye in a grocery store if under high intensity lights.

And every relighting job is the bridge to a rewiring sale.

Cunningham's Drug Store in Detroit, Mich. shows how buying appeal can be greatly increased with the proper quantity and quality of lighting. To the salesman, commercial lighting, covering so many types of installations, offers one of the largest and most profitable fields to exploit. Day-Brite Lighting, Inc. photo.

The Industrial Market

All of the factors here recited in establishing the immensity of the commercial and residential markets could be repeated for the industrial market.

Expansion programs are major issues with almost all industrial plants. Those that have not already done so are planning to relight their factories after their management has caught up with the war-born "increased efficiency through better lighting" studies.

Today's great demand for all kinds of goods requires the best efforts of everyone concerned in the production of those goods, and to gain production, plants are expanding considerably or improving their facilities as fast as possible.

To the salesman this means a chance to step in and help production at the plant by selling the plant managers, superintendents or engineers on new lighting and equipment which will benefit the product, the personnel and the industry. Once sold on relighting, there will be a lot of rewiring done too.

Salesmanship Is Still Required

Despite the fact that there exists a great need for lighting in this era, much of the demand still must be created, which means that a selling job is still necessary. In all of the markets supplied by the electrical wholesaler, the good salesman can find needs that have not been satisfied.

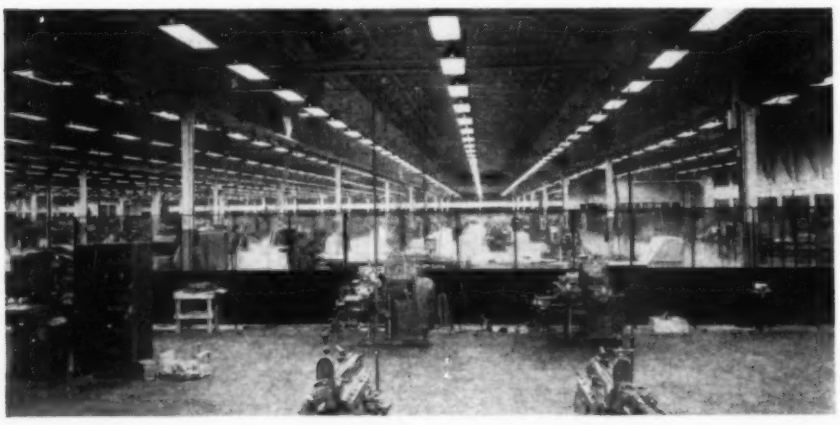
Certainly "easy sales" have been made to store owners, contractors, plant managers and home builders who were starved for electrical and lighting equipment during the shortages and who "didn't give a hoot" what kind of installation they got. But, in the period ahead, as production increases, it is going to require more and more genuine salesmanship, better trained and better posted salesmen, and a well-organized service team to get business and hold the customer afterwards.

The majority of buyers in the commercial, residential and industrial markets are particular. They do not want shoddy, temporary, below-standard equipment. They have learned that for long range service buying the best fittings, controls, fixtures and equipment is still the most economical policy in the long run.

Most of the establishments comprising today's markets for the electrical salesman can be interested in plans for redecorating, expanding or improving the power, wiring and lighting conditions of their particular locations.

But, they are not going to carry out those plans with just anything that comes along. They have waited many years to have the job done and delays caused by strikes, shortages of materials and the like are not going to influence the planner to put in some substitute just because it is readily available.

A real salesman who is honest and knows what he's talking about is still the man most of the electrical buyers, managers, contractors and home builders want to talk with in planning their wiring and lighting needs.



Industrial plants with active programs to increase production all place better lighting at the top of the list as a means of achieving this goal. New lighting as well as relighting existing plants, along with the rewiring materials required, looms large in the 1947 plans of the salesman.

Wire Ahead For Electrical Living By Pushing Adequate Wiring NOW*

By R. M. Oliver, *Chairman*
Company Cooperation Subcommittee of
National Electrical Manufacturers Association
Adequate Wiring Committee
Vice President, Proctor Electric Company

Wire is the common denominator that ties the entire electrical industry together. Promotion of adequate wiring in the new home to the builder and electrical contractor is "taking out insurance" on equipment sales.

IT is hard to realize that our industry is only 67 years old. Yet it was only 67 years ago, in 1879, that Mr. Edison's invention of the incandescent lamp gave birth to the electrical industry which today has a capitalization of nearly fifteen billion dollars.

A great many factors have been responsible for this growth. There might even be some conflicting opinions about them. But about one thing there can be no disagreement. It could not have been possible without WIRE.

WIRE IS THE COMMON DENOMINATOR THAT TIES THE ELECTRICAL INDUSTRY TOGETHER.

Our company manufactures flatirons, another company makes turbines and generators. Both companies depend upon wire as much as a railroad depends upon tracks. And wire, I am afraid, is one thing most of us take entirely too much for granted; like air, water and sunshine.

We *accept* but do not *participate* in our adequate wiring program. Oh, sure, for the last ten years we have combined our resources, gritted our teeth, permitted cold perspiration to stream from our pores and, dime upon dime, piled up the staggering sum of between $40,000 and $50,000 a year with which to support a program that is the backbone of our industry.

And then, after this magnificent gesture, most of us sit back oh-so-comfortably in our easy chairs and think that the premium on the insurance policy for our industry's future is paid up. Year after year, the pattern has varied only in degree.

The Adequate Wiring Plan Committee under Mr. Merrill's able direction and members of the NEMA staff have stretched the few thousands of dollars we have provided into a program which has just been outlined —making every penny do the work of ten.

But what have *we* done? Actually, literally, frankly, honestly—what has *your* company or mine done to wire ahead for electrical living.

For most of us the answer is precious little. A lot of us haven't even been too sure what adequate wiring is or means. We, as manufacturers, have kicked in a few paltry dollars and very little else. And yet wire and *wiring* can either provide a smooth multiple lane superhighway or become a bottleneck that will dam up and choke off billions of dollars worth of productive capacity.

Think it over. How much would this industry pay to save itself if its very existence were threatened? You don't need to answer. It is already

written for all who choose to read. What other industries are doing, as for instance the brewing industry, the paint industry, the American florists, the trucking industry, the Association of American Railroads, the Bituminous Coal Institute, the Florida Citrus Commission, the California Fruit Growers Association, the Iron and Steel Institute, the National Association of Ice Industries, the Can Manufacturers' Institute, THE AMERICAN GAS ASSOCIATION.

Each has invested millions to protect old markets and build new ones. Their programs are continuing and expanding year after year. Last year alone the gas industry invested $491,000 in national advertising to build markets for equipment and appliances.

Ahead of *us* in the electrical industry is undreamed-of opportunity of fabulous dimensions.

Mr. Merrill has shown you an annual new home building program of somewhere near 1,500,000 units a year. This is a conservative government estimate. Fortune magazine, May, 1946, issue, estimates $441 worth of wiring devices and wiring work in each home. That adds up to $661 million dollars a year for *minimum* standard wiring. It's a billion dollar annual market for wiring devices alone *if* a need for ADEQUATE WIRING is properly sold.

This billion dollar new home wiring market is the road over which billions more in generating and distribution equipment, lighting, appliances and other utilization devices will travel—IF . . . and the IF is a big one; IF OUR INDUSTRY HAS ADEQUATELY SOLD THE BENEFITS OF ELECTRICAL LIVING AND THE NEED FOR ADEQUATE WIRING TO MAKE IT POSSIBLE.

Now add a modernization market that will go hand in hand with the new home market and even a New Deal economist would blink twice at the box car figures, IF OUR INDUSTRY HAS ADEQUATELY SOLD THE BENEFITS OF ELECTRICAL LIVING AND ADEQUATE WIRING TO MAKE IT POSSIBLE.

And that's where we come in. It's more than a job for the Adequate Wiring Committee. It's a job for the electrical industry. It's your job and mine.

That's the reason for NEMA Committee for Member Company Cooperation. And here, specifically, is how we can cooperate in the program:

1. By understanding that adequate wiring is as important to the electrical industry as highways are to an automobile manufacturer. In other words, by recognizing that none of us can sell electrical products until homes are wired for electrical living: and the better the wiring, the better our chances of selling our products.

2. By understanding what the adequate wiring program is, how it works, by getting in touch with local agencies, electrical leagues and utilities, becoming acquainted with the program at the local level and doing our utmost to cooperate with it.

3. By making sure that our employees understand to what extent their jobs and ours depend upon wiring. Acquaint them with the program. Use material prepared for this purpose. Prepare our own. Make adequate wiring a part of our in-plant training programs. Assign someone to the responsibility for doing this.

4. Make certain that our sales organizations most of all are fully informed about the adequate wiring program and its importance to the individual salesman. I'll bet 99 out of 100 don't even know what the adequate wiring program is. Our men

Lower cost homes as well as higher priced ones are springing up all over the country and furnish a "natural" for adequate wiring. Salesmen must remember it's far easier to sell adequate wiring when the house is in the planning or building stage rather than after construction is completed and should analyze their territories for building prospects now.

Probably fewer than one percent of today's homes are adequately wired by the standards of tomorrow. Yet the difference between adequate and inadequate wiring is frequently less than the cost of a single appliance.

with appetizing food, like standing outside a window and on a chilly morning watching a pretty girl flip piping hot, golden brown griddle cakes. Such desire cannot be sidetracked. It must be satisfied.

That's all there is to selling; awakening desire, stimulating it until it becomes a want so strong that it is a *need*. Then along comes the product to fill that need and, presto, the cash register rings again.

This is the time for thinking, planning, preparing for knock down, drag out, tough competition from every other industry that has a stake in the consumer's dollar, and in that fight we need THE ADEQUATE WIRING PROGRAM BECAUSE IT IS A PROGRAM OF WIRING AHEAD FOR ELECTRICAL LIVING.

Probably fewer than one percent of *today's* homes are adequately wired by *tomorrow's* standards. Yet the difference between adequate and pitifully inadequate wiring is frequently less than the cost of a single appliance.

No home would be without it if a proper realization of its importance existed. That means education, selling ahead, creating desire, stimulating it into want and appreciation of a need.

And this is where we — you and I come in if we want American home owners to wire ahead, we'll have to sell ahead. We can't start too soon. And we can't start with pants buttons. It will take blue chips, the kind of program launched years ago by the Electrical Refrigeration Bureau that helped to sell electrical refrigeration and kick out the ice man. A program like the Better Light, Better Sight drive, a "Save the Surface and You Save All" campaign.

It seems to me that now is not too soon to look ahead to a program of selling ELECTRICAL LIVING. A million dollars is not a large investment for an industry whose annual potential is computed in terms of billions.

This piece of wire is the common denominator. Adequate wiring comes first. An industry program to sell its importance to the American public is a program for the future — your company's future and mine.

**Excerpts from an address at the recent General Session of the Annual Meeting of the National Electrical Manufacturers Association; Atlantic City.*

will sell more of whatever we make if they have a better appreciation of industry interdependence.

5. Give our advertising departments the job of plugging adequate wiring wherever this can be done. Don't just tell your advertising manager to use the adequate wiring emblem in every ad. Tell him it's his job to help sell better, more nearly adequate wiring to consumers and to the trade.

Think about the relationship of this piece of wire to *your* business. Think further about the relationship of *selling* to your business. Realize that no matter what you make it will overflow your warehouse unless someone else recognizes the need for it. Appreciate that this recognition is not a tangible or physical something you can see, or feel, or smell, or hear. It is a state of mind. It is desire which at first is scarcely felt or understood, but, when whetted, becomes as compelling as the urge to eat when confronted

A tremendous amount of educational and promotional work lies ahead if the full benefits of adequate wiring are to be fully realized by the building public. Through aggressive selling, the story of adequate wiring can be put across. Westinghouse photo.

EVERYTHING IN WIRING POINTS to—

NATIONAL ELECTRIC—

the COMPLETE *line* of Raceways, Wire, Cables and Fittings

Sold nationally through electrical wholesalers.

National Electric Products Corporation
Pittsburgh 30, Pa.

New Industrial Applications Speed *Adequate* Rewiring And Relighting**

An amazing number of new electrical applications that increase efficiency and speed of production will be installed by American industry, and every installation means sales opportunities for new equipment, rewiring and relighting

By C. B. Stainback*

C. B. Stainback

ONE of the biggest obstacles to the wider use of electrical applications to increase industrial efficiency is the limitation of wiring capacity in many of our plants today.

Without adequate wiring many plants will be denied the benefits that would come to them through the adoption of many new electrical applications and not only should wiring be adequate, but it should be mobile and made available wherever needed in the plant. This can be brought about by the use of a network system, with power centers, strategically located throughout the plant and the usage of bus duct, thereby making it easy to change locations of machines to fit in effectively with any changes in over-all manufacturing operations.

To more effectively benefit from the use of these new industrial applications, improved lighting is just as essential as improved processing. Proof that better light means better sight is found in many modern lighting installations of plants, offices and drafting rooms. See-ability goes hand in hand with better work and increased production. In the machine shop, in the steel plant, or in the electrical manufacturing aisle, improved lighting will increase industrial efficiency.

Power Sales Your Yardstick

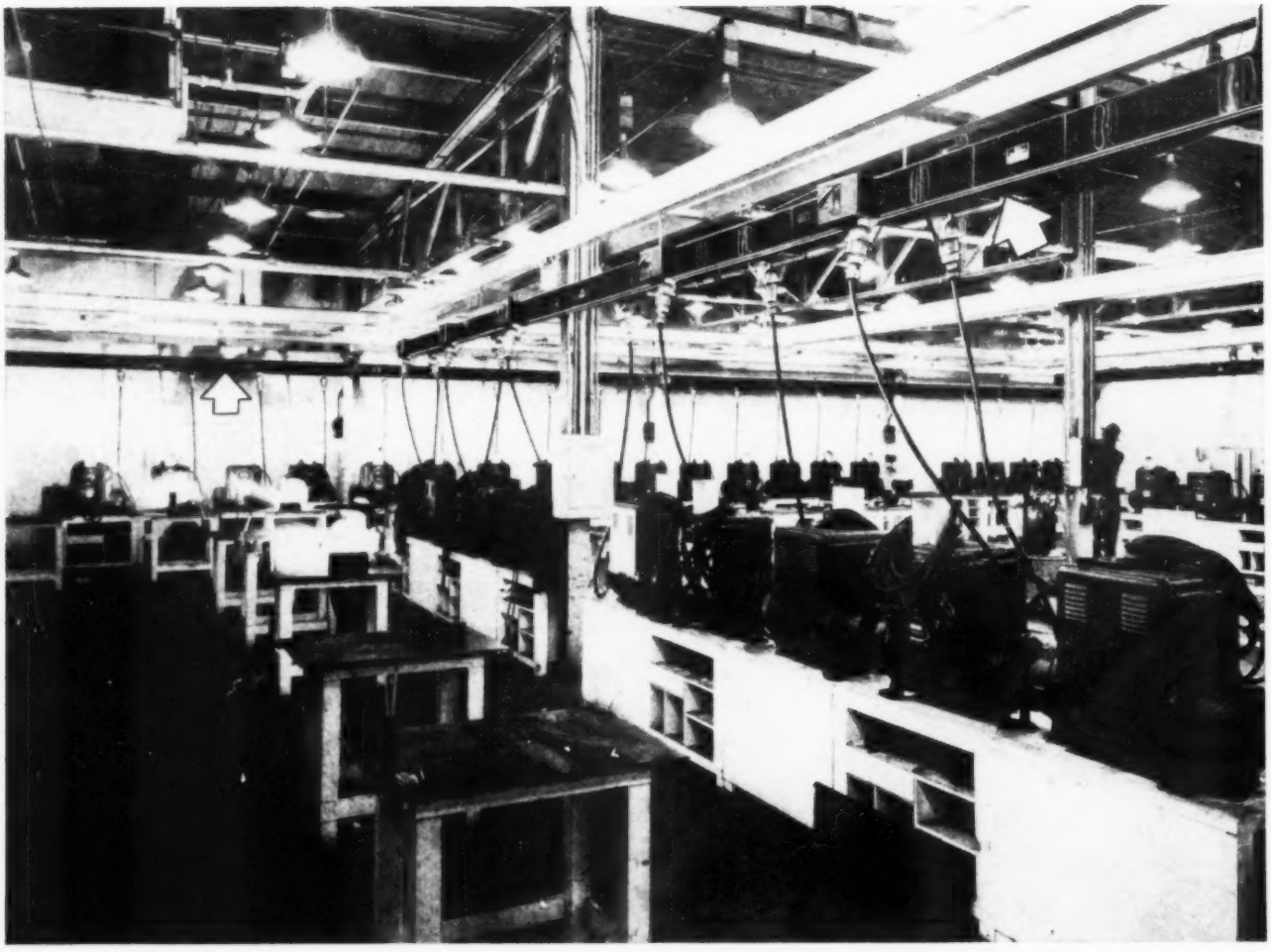
In a talk that I made almost 3 years ago to the executives of the electric power industry at the Future Power Market Forum which was held at the William Penn Hotel in Pittsburgh, I made the following statements. First, that industry is the best potential customer of the central station. Second, that the future post-war industrial market would approximate the consumption of electric power during the height of the war era. And third, that at the close of the war we would make available to industry those new products as well as *improvements* in *existing* products, which would in turn enable industry to produce a *better* product to produce it in *less* time and to produce it at *less* cost.

At that time we also made a forecast of the consumption of electric power in industrial markets in the pre-war period, during the height of the war and during the post-war period. I would like to repeat one of my original statements that, in our opinion, *future* industrial markets will *approximate* the consumption of electric power during the height of the war era.

So we now bring you "Productive Power," wherein we are presenting the possibilities of electrical applications to increase industrial efficiency in American industry.

It is our opinion that these new electrical applications will add some 5 billion kilowatt hours to the annual

*Manager, Industrial Department
Westinghouse Electric Corporation



Rewiring when planned and installed should be adequate and flexible with sufficient power centers strategically placed to allow for change of location of production equipment. Bulldog Electric Products Co. photo.

consumption of industrial power and will help to boost the horsepower available to the productive wage earner to *more than 7½ hp.* or an increase of some 27 percent over the horsepower available to the productive wage earner during the *peak* of war production.

Industrial Electronics

There is no word that has blazed its way across the industrial horizon during the past 5 years that has more general appeal than the word "electronics."

Admittedly electronics is not a panacea to cure all of our ills, but adaptations of electronic applications have served their purpose well in increasing industrial efficiency.

Let us look at a few typical examples of electronics in high frequency heating, many of which are being used in the metal working industry of today.

One machine, makes it possible to anneal both ends of these previously hardened pins in ½ second in a continuous production process. Formerly the method used was to hand dip each end of the pin in a salt bath with no control over the quality of the pin produced. I am sure that each one of you recognize that only with radio frequency heating can precise control be attained for any heat treatment of metals.

A modern gear is another excellent example of this type of selective heat treatment, whereby each section of the gear receives a treatment to suit performance requirements. A hard *tooth* surface is obtained for wear resistance and the original *toughness* of the steel is retained in the center to prevent breakage under sudden shock loads. The speed with which this treatment takes place is in terms of seconds against hours by conventional methods. Because of such speed, distortion and warping are minimized and scaly surfaces are practically non-existent.

Another typical example of applying radio frequency is the brazing of cutting tips to tool shanks. Soldering operations can be advantageously performed with high frequency heating. A good example is a difficult soldering operation in which two different types of materials, such as porcelain and metal are joined.

Induction Heating

Induction heating is also applied very successfully to what is commonly known as forging. This operation consists of hammering heated metal between hardened steel dies. High frequency current will heat the forging metal so rapidly that scale formation will be eliminated.

Closely associated with heat treatment of metals as far as equipment

and power is concerned is the furnace brazing process. Brazing is a method of joining metals by means of heat and a filler metal (brazing alloy) that has a melting point above 1000 degrees F, but lower than the metal or alloys being joined.

A twofold application of the furnace brazing process is a die in which a slot ½" long but only .020" thick in a piece ½" deep is required. This die is used for the drawing of strip brass. To machine a slot of this size, the width of a few human hairs through a solid piece of steel, is impractical and prohibitive in cost. On the other hand, brazing provides a simple answer by merely putting the required slot on one piece and closing it with another plain flat piece and thus obtaining the complete die.

It is true that most present uses of tool brazing have been more or less confined to cases where other methods would not be feasible. But within the near future, as confidence in brazed tools and dies is reinforced by actual usage, jigs, tools and dies will be put together in jig-saw puzzle fashion and completed by a combination of brazing and hardening in an electric furnace of the atmosphere-controlled type.

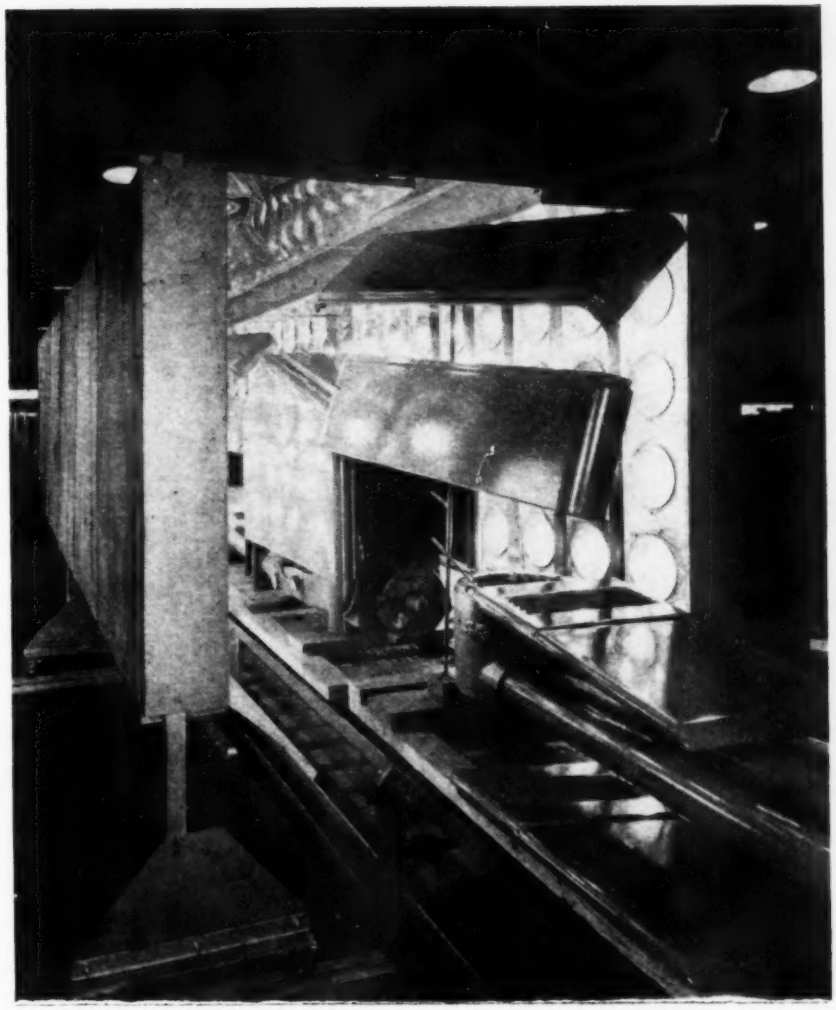
Now let us consider two outstanding examples of different methods of the heat treating of metals. These indicate at a glance the benefits derived.

When treated in an electric furnace with a suitably controlled atmosphere to prevent carburization and scale formation, a clean appearing sample results. When treated in a fuel fired furnace in which the advantages of controlled atmosphere could not be employed, a scaly piece is obtained. While the contrast in appearance is appreciable, the most important difference is the saving derived from elimination of scale removal and variables incident to this operation.

Almost every metal fabricating plant from the smallest to the largest is a potential user of electrical equipment and electric power for similar purposes.

Dielectric Heating

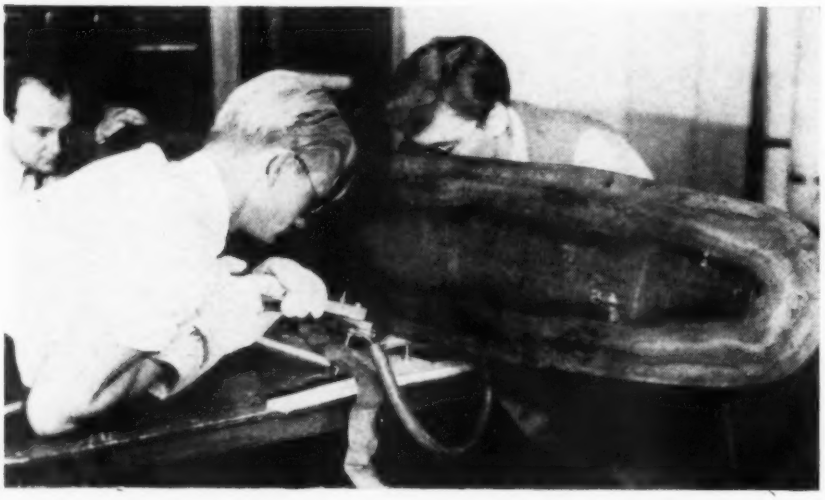
Of equal importance with induction heating of metals is the comparatively new technique of dielectric heating. In dielectric heating the non-metallic material is placed in a high frequency electrostatic field and heat is generated



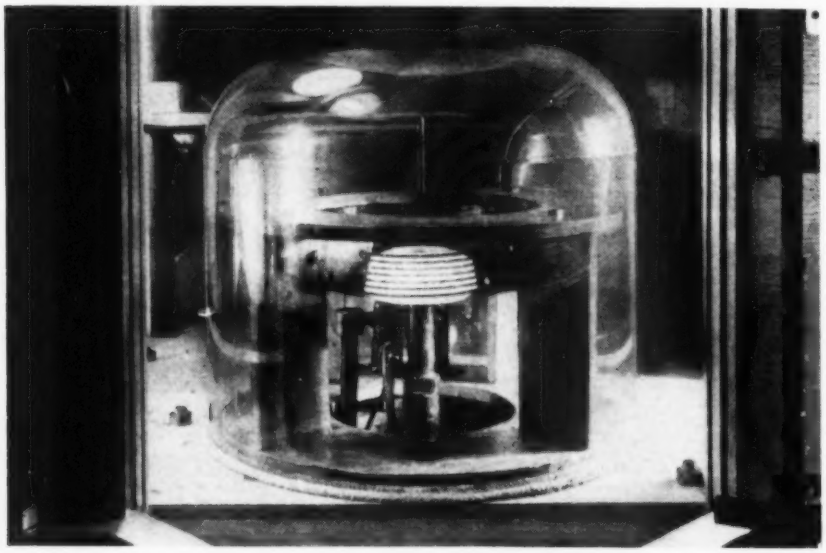
Quick drying by infra-red speeds production and allows great flexibility. Here it is used to dry synthetic enamel on stokers in nine minutes. Previous time required for air-drying was twelve hours. General Electric photo.

Commercial applications of electronics are many and include an electronic wheel balancer which indicates degree of unbalance and actuates stroboscopic light which indicates point of unbalance. Stewart-Warner Corp. photo.

Using radio-frequency current instead of ordinary needle and thread this electronic "sewing" machine joins plastic materials. RCA Victor photo.



Electronic induction is effectively used to braze a filler along the inside edge of a hollow airplane propeller. Westinghouse photo.



Great savings in time can be made with induction heating. Here an entire oil-well drill bit is hardened by this process in only a few seconds. Westinghouse photo.

simultaneously throughout the inner and the outer portions.

Laminated plywood has been cured by dielectric heating and curing time has been reduced from one and one-half hours with steam platens to seven minutes by using dielectric heating.

Truck wheels, made of chopped phenolic cloth, when cured in steam platens, require 90 minutes while under the influence of dielectric heat the curing time is reduced to nine minutes.

Whatever is applicable to the wood block can also be translated to parts such as airplane propellers and similar useful parts.

A molded handle represents another type of plastic product in which electric heat will be used to soften and pre-heat the uncured material before introducing it into the mold. This step reduced the curing cycle, on the average, from ten minutes to two.

The introduction of new plastic molding materials such as nylon will make it necessary to have a greater range of curing temperatures than is required at present. To meet this demand electric heat will be called upon to supply the energy which will with comparative ease deliver the desired variations in curing temperature.

Dielectric heat is also applied to joining of wood by means of glue. This method is so simple and rapid in its action of heating and setting the glue that we can readily anticipate radical changes in the woodworking industry.

Another application of dielectric heat can be found in a machine which in appearance and nature of performance resembles closely a sewing machine. For that reason, it is called electronic stitching. By this means plastic materials which soften when heated are joined by electronic stitching to produce irregular shaped parts which are difficult to mold or to form seals or seams.

A bus bar may be covered with a sheet of insulating material, wrapped around the bar several times, the free end of which has been sealed by dielectric heat.

Another interesting example of dielectric heating is the drying of sponge rubber mattresses at Fall River, Mass. Here a 125 kw. RF generator, operating at 13.6 megacycles, is turning out a full double bed size sponge rubber mattress every 5 minutes where the time formerly required for curing with

other conventional methods was 60 minutes. The comparison of the drying time is even more pronounced some 45 seconds with dielectric heating with a notable improvement in quality whereas 16 hours were required for drying with hot air.

Electric Welding Markets

While welding is not a new process by any means yet the art of welding received tremendous impetus under our war need for ships, tanks, and planes.

Resistance welding is particularly suitable for quantity production. Heavy thicknesses of materials may be joined in contrast to the common conception that spot welding is applicable only to thin sheet metal. Resistance welding for example will produce a part that was formerly machined out of a solid piece.

Electronic Controls

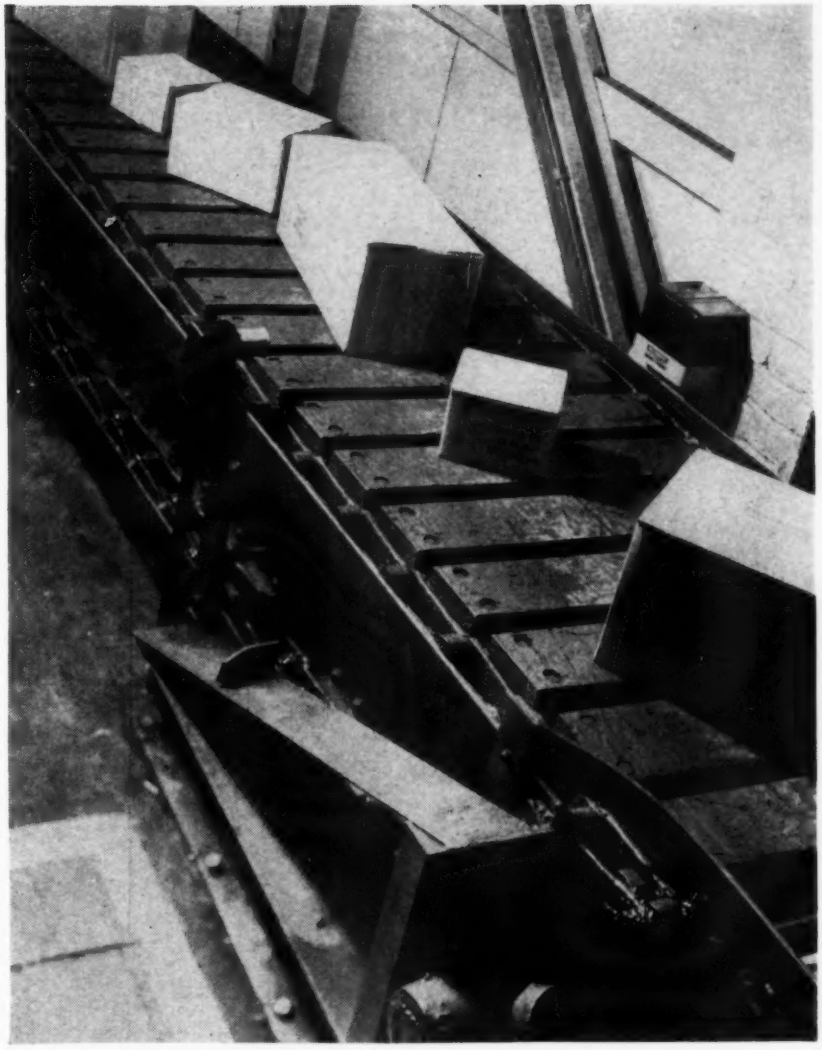
There are many ingenious uses for photo-electric control in industry, such as counting packages as they go through the conveyor line, or the electric eye may be used to insure the safety of the workman.

In general any punch press operation is usually hazardous by the very nature of the application and here again we find that electronics in the form of photo-electric protective devices can be used to protect the operator during the process of guiding or inserting metal between the dies of the press.

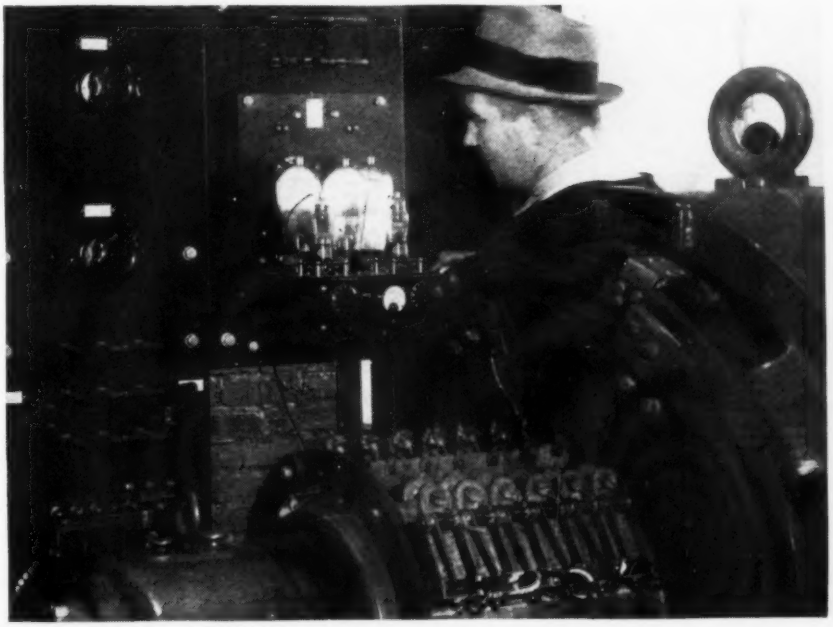
Beams of light are projected across the front of the press so that the entire area is protected by one or more of these beams of light, the interruption of which by the operator's hands will either instantaneously stop the operation of the press or prevent it from starting.

These devices are also self-protecting in that failure of the light beam, a burn-out of an electronic tube, soiling of the mirrors or lenses in the light system will act in the same manner as though the operator had placed his hands in the light beam. In this instance the device in addition to protecting the operator of the machine against his failure to protect himself, also protects the operator against failure of any component part of the device.

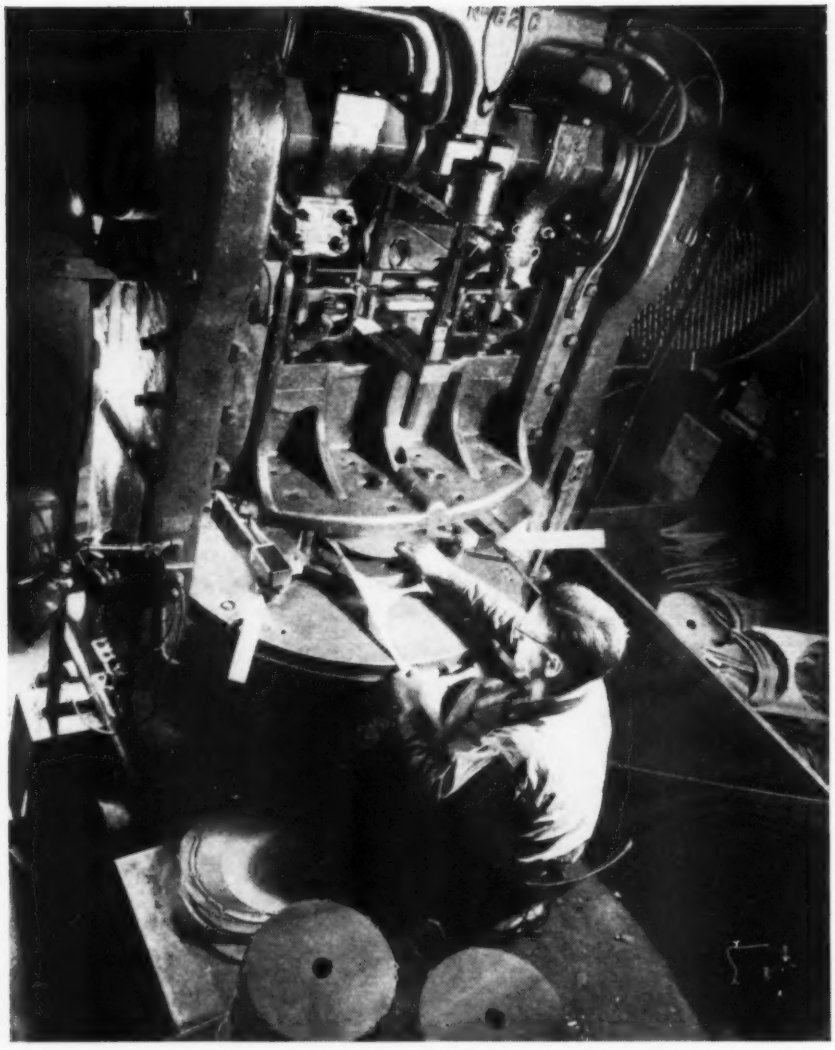
What we have learned through the



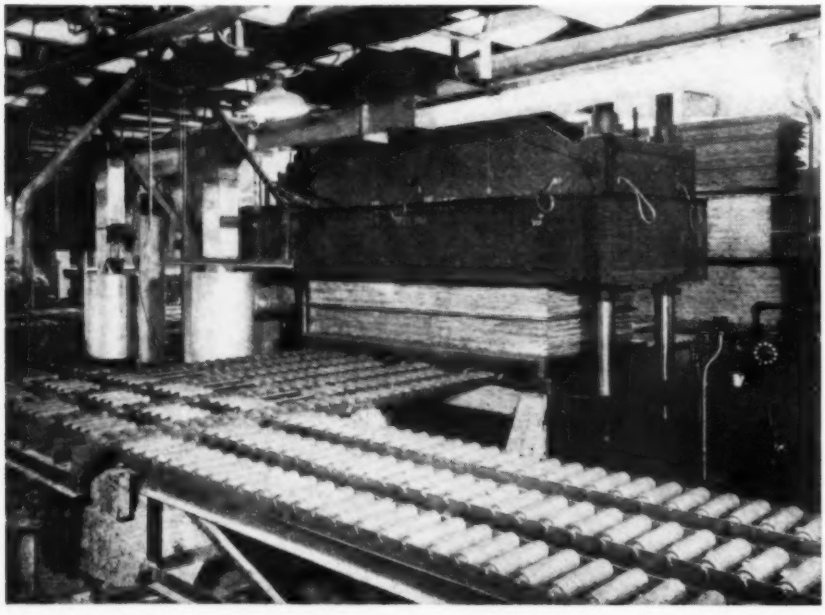
Among the many ingenious uses for electronic devices is this counting device which can be installed right on conveyor belt. Westinghouse photo.



Typical electronic control job in industry is holding motor speed constant at preset value. Operation is fully automatic. Westinghouse photo.



Punch press operation is usually hazardous. Electronics in the form of a photo-electric device protects the worker during process of guiding or inserting metal between the dies of the press. Westinghouse photo.



Dielectric heating is comparatively new in industry. Here a press loaded with fir veneer has a bundle approximately twelve inches thick on each side of the center electrode. The entire bundle is raised to 160 degrees F. in approximately five minutes. Girdler Corp. photo.

application of the PRECIPITRON, as an integral part of air conditioning in the home and office building in removing dirt and dust can readily be applied to the factory or machine shop. That simple and inexpensive electrostatic air cleaning device will also remove all traces of oil mist. No longer need you have deposits of oil on your lighting or have oil dripping from the ceiling.

The device also has been a boon to the textile industry, particularly in rayon mills, where the product must be kept clean. Many typical examples can be found in textile mills where the device is used along with air conditioning.

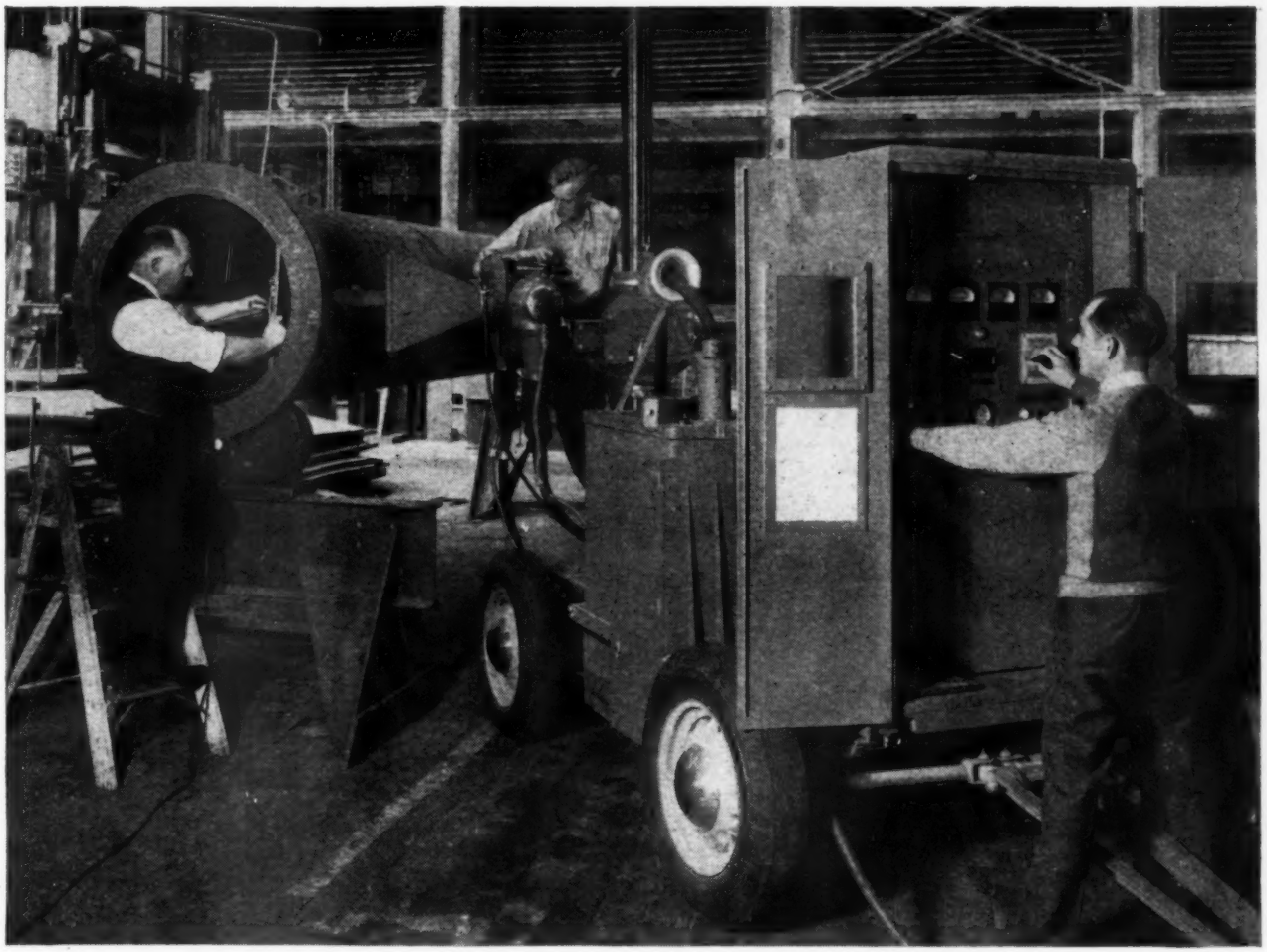
Industrial X-Ray

When we think of X-ray we usually think of the medical profession but the industrial doctors will tell you of the many savings that may be accomplished by the use of industrial X-ray, which will pick out faults in castings and thus save many countless hours of machining which otherwise would be wasted. Industrial X-ray may be applied both to large and to small pieces.

A typical example of using industrial X-ray is to inspect large quantities of small pieces for internal flaws. In this instance X-ray equipment is of great value in that heretofore inspection of these parts was well nigh impossible because of the large volume and the impossibility of detecting an internal flaw without actually cutting a part from each piece. In a few cases internal flaws were discovered during the machining operation, however, experience has shown that a great many faulty parts were machined without disclosing the flaw thus resulting in failure of this part when used in some production machine.

It should be obvious, therefore, that any machine capable of looking inside a metal object without marring or destroying its usefulness would not only reduce the cost of manufacturing the articles, but would also conserve materials.

Where small pieces are involved it is a relatively simple matter to bring the work to the X-ray unit. In certain heavy jobs, such as pressure vessel construction the work cannot be handled as readily and therefore it becomes



The detection of internal flaws in metal is accomplished with the use of industrial x-ray equipment. In certain heavy jobs portable x-ray equipment, as pictured above, is brought directly to the job.. Westinghouse photo.

necessary to bring the X-ray unit to do the work, and for that reason mobile equipment has been developed.

Infra-Red Drying

Quick drying by means of infra-red lamps is gaining in popularity by leaps and bounds. One has only to read the proceedings of the 12th Annual Sales Conference of the Commercial Departments of the Public Utilities to realize the tremendous possibilities for infra-red drying.

For instance, solder sealed condensers, which have been previously dipped, are now being dried by means of infra-red lamps. In the past drying of enamels and paints required hours as against minutes with infra-red heating. In addition to the saving in time infra-red is a clean type of heating, even cleaner than any other known method of drying in use at this time.

Another excellent application of infra-red drying involves coated wallpaper. Naturally care must be exercised in that process so as not to mar or otherwise injure the surface of the coating and because of its extreme cleanliness infra-red is the ideal answer to this problem.

Many installations of infra-red drying are designed so that the material to be dried is carried through a heating tunnel on a conveyor system.

Regardless of whether the material is metal, paper, textile, the fact that infra-red lamps are self-contained can be mounted in any position and may be grouped in any type of arrangement makes infra-red preferable over any other known type of heating and drying.

Now in closing, let me repeat again what I said earlier that the post-war consumption of electric power in American industry will approximate the consumption during the war era, and that the many new electrical applications will serve to increase industrial efficiency, to help produce a *better* product, and to produce it in *less time,* and to produce it at *less cost.*

Some of you may think that the picture of the future has been painted with too rosy a hue. I do not believe it. I am confident of the future of productive power in American industry, which will be helped tremendously through the use of new electrical applications in increasing industrial efficiency.

***Excerpts from an address recently delivered by Mr. Stainback before the Eleventh Annual Conference of the International Association of Electrical Leagues, Hotel Astor, New York.*

Selling Modern Showcase Lighting Profits The Contractors—And You

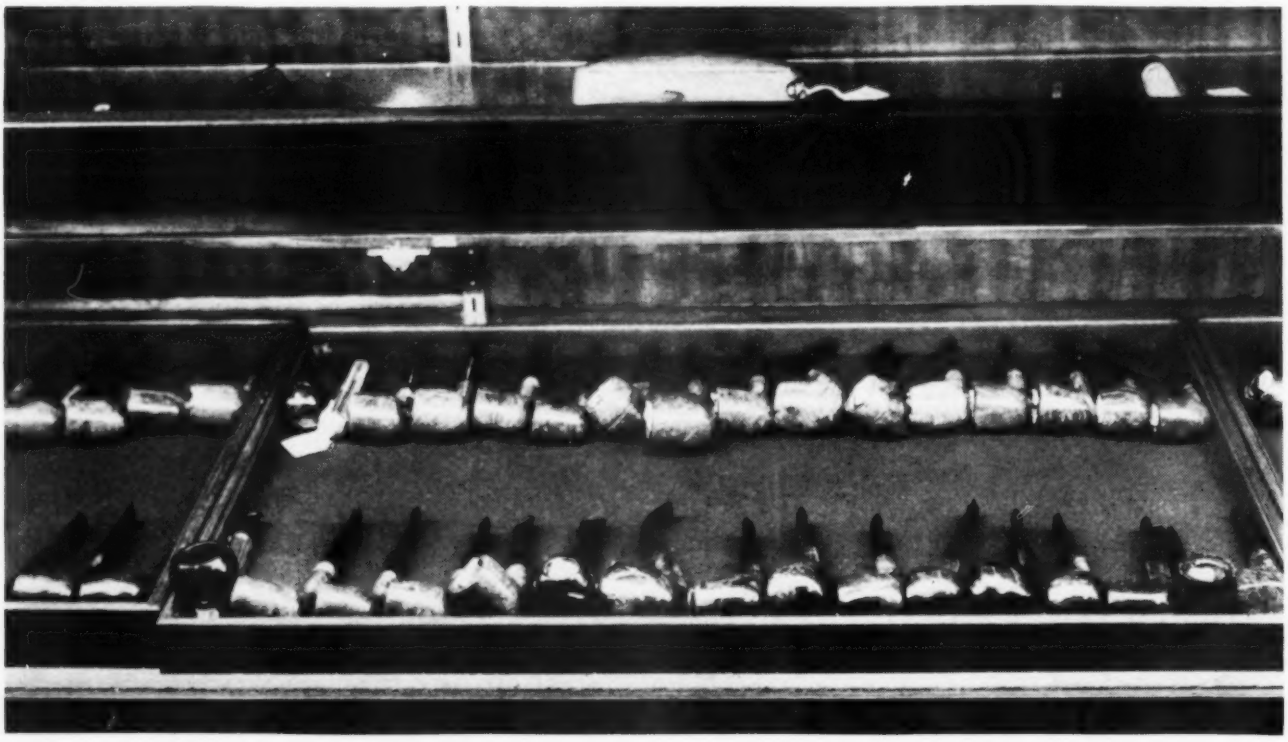
Adequate lighting is needed for hundreds of thousands of showcases in the nation's 1,700,000 retail stores, and showing your contractors how to sell modern lighting, to retailers will bring many sizeable orders

By W. C. Pirie

STRETCHING the hot cathode fluorescent lamp into lengths of 42", 64", 72" and 96" has created a number of new uses for fluorescent that are both extremely efficient and decorative from the lighting angle.

These longer and slimmer fluorescent lamps can readily expand the lighting sales opportunities for the salesman who is well acquainted with the lighting problems of his customers and who familiarizes himself with the distinct advantages of the lamps.

Announcement of these new linear light sources was made long ago by several lamp manufacturers, but with production concentrated on the standard fluorescent lamps during the war years, it is only now that they are becoming available in quantities. Prime reason for development of these lamps is to furnish long, unbroken lines of light to harmonize with archi-



New, longer, slimmer fluorescent lamps properly installed in a showcase as in this recently opened New York tobacco shop greatly increase the buying appeal. Here one 64" lamp installed behind a narrow metal reflector along the front edge of the case gives soft, uniform lighting throughout the display area and sets off the fine grain of the woods in the pipes for which the experienced pipe smoker first looks. Quality and color of light also makes merchandise look cool and appealing.

Combinations of 42" and 64" fluorescent lamps provide these showcases with approximately 50 footcandles of light, despite the dark walnut finish of the case interior. Eliminating the annoying "hot spots" caused by incandescent showcase lighting, these new linear light sources provide a "natural" for the salesman to promote in store modernization. Narrow lamp diameter allows use of small reflector taking up less space in showcase and permitting better display of merchandise.

tectural design and surroundings.

Commercially one of the more popular and profitable uses promises to be in the lighting of showcases. Here high levels of uniform illumination *must* be secured to properly display merchandise.

Store Modernization Means Sales

Some showcases of more recent construction are equipped with the standard types and sizes of fluorescent lamps. However this furnishes only a very small lamp replacement market to the salesman.

The advent of the longer, slimmer fluorescent lamps increases enormously the size of the market for the salesman if he will promote now to his large retail store accounts and his electrical contractor customers the idea of modernizing show case lighting with these new sources.

Today more than 1,700,000 retail stores and more than 2,700 department stores are in operation in this country. Many have fully organized modernization plans and are anxiously waiting for commercial building restrictions to be lifted and availability of materials to put these plans into effect.

High up on the list of "musts" for modernization is lighting, with showcase lighting — the most important in the store since it is at the point of sale—receiving its full consideration and an ample share of the modernization budget.

The longer, slimmer fluorescent lamps provide a "natural" for the salesman in discussing lighting with these stores or with the electrical contractors who do their installations.

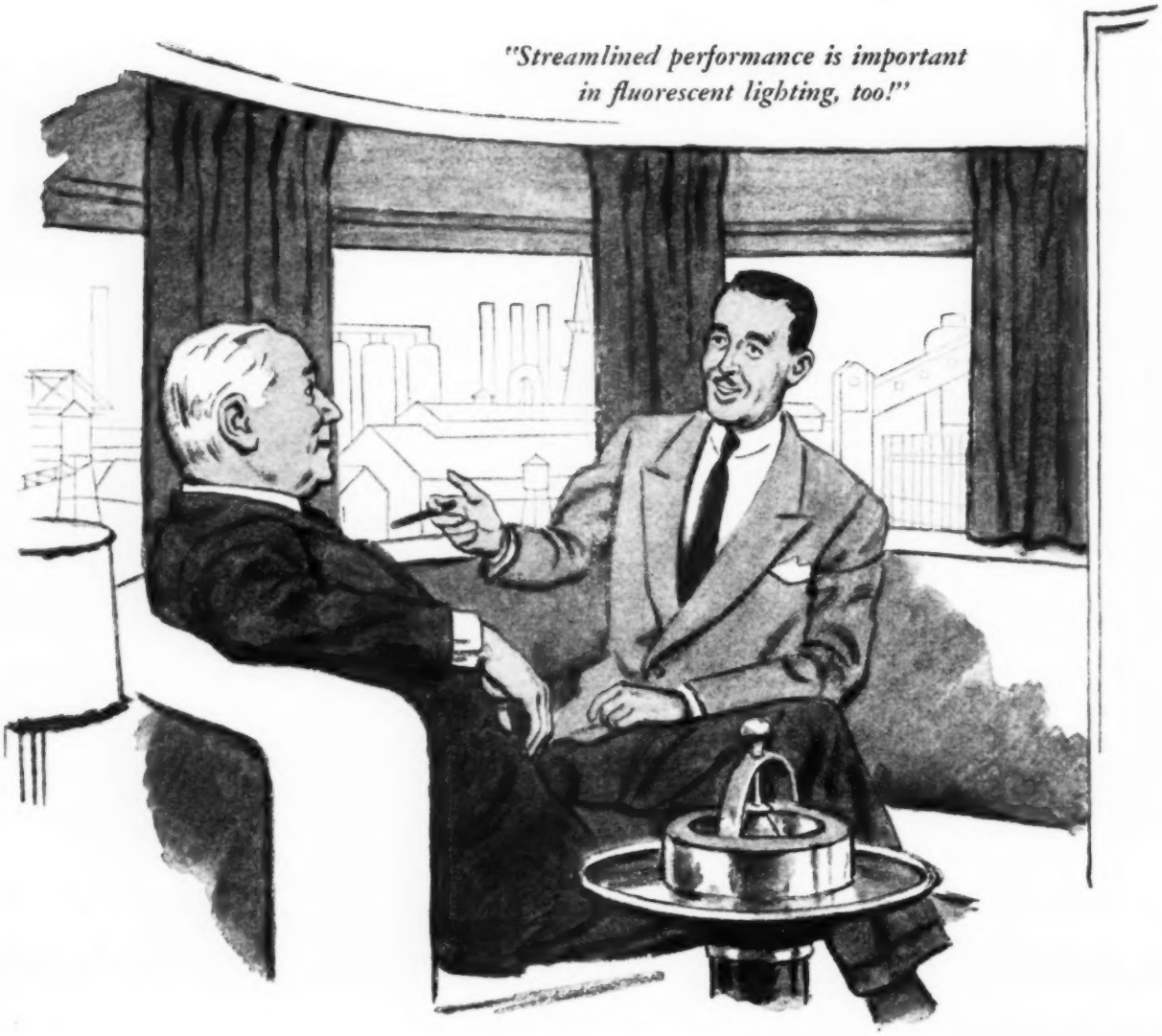
Obviously it is more than the sale of lamps that makes the sales possibilities of this market so attractive. Here is an opportunity to sell ALL the necessary lighting equipment—the lampholders, the ballasts, the wire, the plugs, etc.—that must be used to do the complete showcase lighting installation.

Sell Advantages Of New Lamps

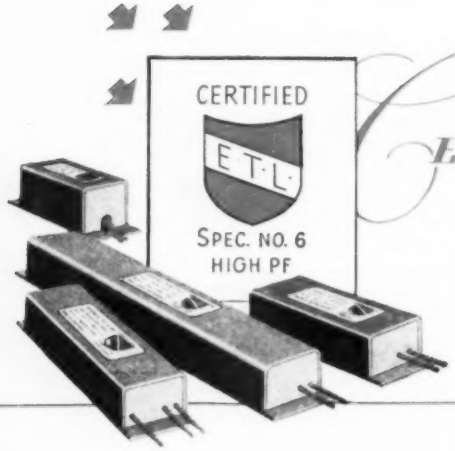
Shortcomings of the incandescent lamp in showcase lighting have always been the "hot spots" directly over the lamps in the case and the uneven distribution of light.

To furnish the necessary lighting intensity within the showcase required the use of a large number of incandescent lamps. Since the lamps and the concealing reflectors are installed in-

"Streamlined performance is important in fluorescent lighting, too!"



. . . And there's a way to assure it—through Certified Ballasts. The ballast, in a fluorescent lighting fixture, is the *heart* of the lamp and fixture *operation.* And Certified Ballasts, built to exacting specifications, tested, checked and CERTIFIED by independent experts, Electrical Testing Laboratories, Inc., as definitely meeting those specifications, mean—to you—longer fluorescent lamp life—most light from lamps—greater economy. Insist on the ETL Certified label on the ballasts you specify and use!



CERTIFIED BALLAST MANUFACTURERS

Makers of Certified Ballasts for Fluorescent Lighting Fixtures

Acme Electric Corporation
Cuba, New York

Chicago Transformer Div.
Essex Wire Corporation
3501 Addison St., Chicago, Illinois

General Electric Co.
Specialty Transformer Division
Fort Wayne, Ind.

Jefferson Electric Co.
Bellwood, Illinois

Sola Electric Co.
2525 Clybourn Avenue
Chicago 14, Illinois

Starring and Company
Bridgeport, Conn.

Wheeler Insulated Wire Co., 378 Washington Ave., Bridgeport, Conn.

side the front top edge of the case, it has resulted in excessive discomfort for the customer who usually leans on the case in making his selection of merchandise.

The longer, slimmer types of fluorescent lamps overcome this handicap as they are a much cooler light source and have a much greater light output than an incandescent installation using a comparable amount of current.

A certain amount of unevenness of distribution within the showcase has been another disadvantage, and these new fluorescent lamps, furnish an unbroken, linear source that assures a high level of uniform illumination.

Another factor that favors the use of the longer, slimmer fluorescent lamps in showcase lighting is their small diameter; much less space is required for the installation than with incandescent. The 42″ and 64″ lamps are only ¾″ in diameter and the 72″ and 96″ lengths have a diameter of 1″.

To attract the attention of the shopper, the showcase should be illuminated at a level of two to four times that of the general store lighting. It must also permit the shopper to scrutinize the merchandise closely for details and it must increase the "buy-appeal" of the articles displayed.

That the new fluorescent lamps can fully meet these requirements should be dramatized by the salesman with the following arguments:

1. They generate much less heat, thereby permitting the higher levels of illumination to be attained with no trouble
2. Being a cooler light source, they reduce danger of spoilage of merchandise
3. They afford better light distribution
4. Consume a lower total of energy
5. Require less space
6. Have a longer life
7. Require no starter

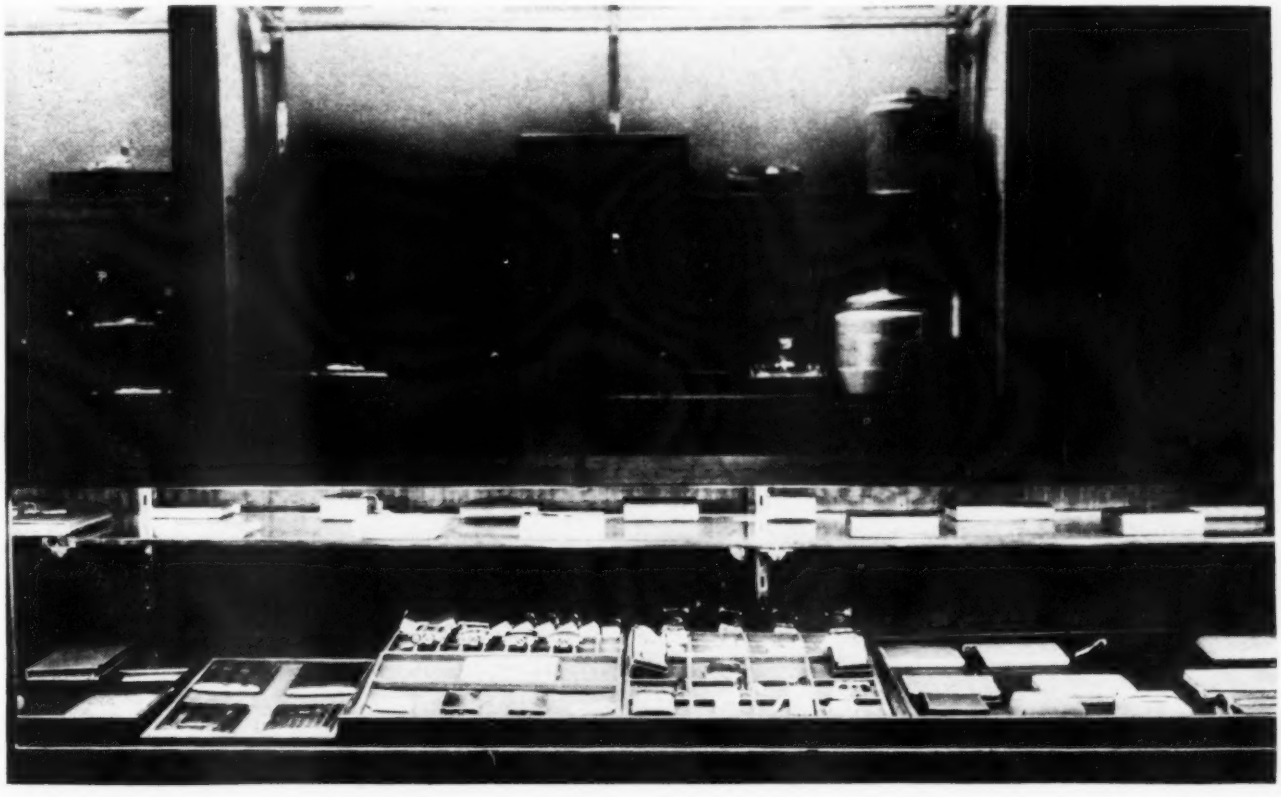
Showcase lighting constitutes just one, but a most important phase of retail store lighting where the new fluorescent lamps can be used to good advantage.

Must Consider All Possible Uses

Display boxes using either up-or down-lighting and extending sometimes for long lengths in back of showcases or counters demand high levels of illumination to properly set off merchandise. The longer, linear light sources provide this without the presence of annoying dark spots such as the ordinary means of illumination cannot avoid.

Cove lighting offers another potential use and can be accomplished much more easily, for example, with one 96″ fluorescent lamp of the new type than with two 48″ standard fluorescent lamps.

The salesman should overlook no possible use for these lamps in analyzing the lighting needs of his large-store accounts, nor should he overlook the fact that now is the time for him to analyze his territory and dig out all the possible prospects.



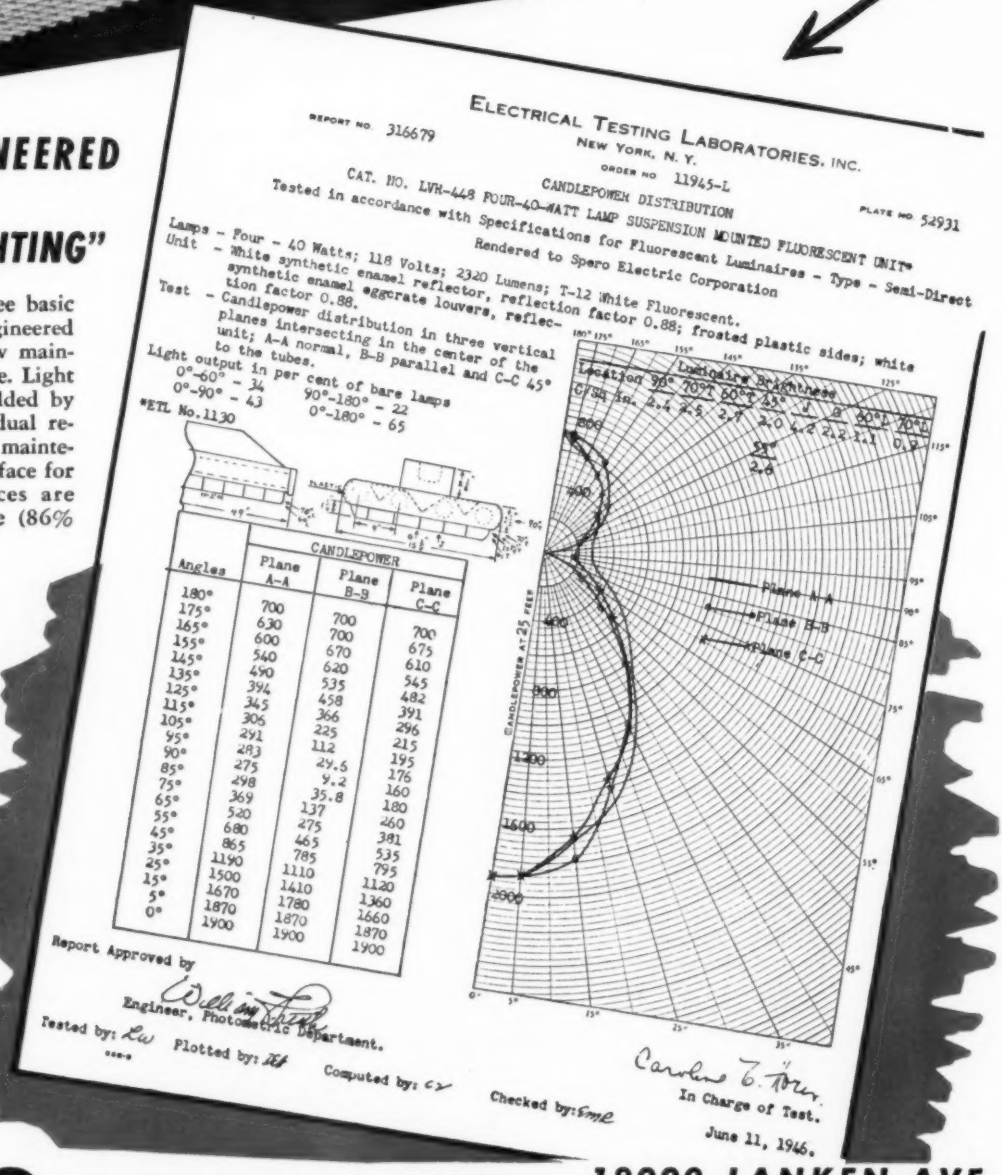
Higher levels of illumination will more quickly draw the shoppers attention to the showcase and permit close scrutiny of the merchandise details. Usually the installation of the new fluorescent lamps will be far less expensive to the store owner than replacement of the case and affords the salesman an opportunity to sell all the electrical components necessary to do the job. Showcases are but one of the many commercial uses to which these lamps may be put. All photos by Sylvania Electric.

SPERO "LVR"-gives the performance needed for ENGINEERED LIGHTING

SPERO "LVR"-448

Louvre-shielded commercial fluorescent luminaire —an achievement in lighting engineering.

...HERE IT IS ...in BLACK and WHITE



ELECTRICAL TESTING LABORATORIES, INC.
NEW YORK, N. Y.

REPORT NO. 316679 ORDER NO 11945-L PLATE NO 52931

CAT. NO. LVR-448 FOUR-40-WATT LAMP SUSPENSION MOUNTED FLUORESCENT UNIT*

CANDLEPOWER DISTRIBUTION

Tested in accordance with Specifications for Fluorescent Luminaires - Type - Semi-Direct

Rendered to Spero Electric Corporation

Lamps - Four - 40 Watts; 118 Volts; 2320 Lumens; T-12 White Fluorescent.

Unit - White synthetic enamel reflector, reflection factor 0.88; frosted plastic sides; white synthetic enamel eggcrate louvers, reflection factor 0.88.

Test - Candlepower distribution in three vertical planes intersecting in the center of the unit; A-A normal, B-B parallel and C-C 45° to the tubes.

Light output in per cent of bare lamps

0°-60° - 34 90°-180° - 22

0°-90° - 43 0°-180° - 65

*ETL No. 1130

Angles	CANDLEPOWER Plane A-A	Plane B-B	Plane C-C
180°	700	700	700
175°	630	700	700
165°	600	670	675
155°	540	620	610
145°	490	535	545
135°	394	458	482
125°	345	366	391
115°	306	225	296
105°	291	112	215
95°	283	24.5	195
90°	275	4.2	176
85°	298	35.8	160
75°	369	137	180
65°	520	275	260
55°	680	465	381
45°	865	785	535
35°	1190	1110	795
25°	1500	1410	1120
15°	1670	1780	1360
5°	1870	1870	1660
0°	1900	1900	1870
			1900

Report Approved by

Engineer, Photometric Department.

Tested by: Lw Plotted by: RH Computed by: CV Checked by: EmL

In Charge of Test.

June 11, 1946.

PROPERLY ENGINEERED for "ENGINEERED LIGHTING"

Spero "LVR" meets the three basic requirements for good "engineered lighting"— high efficiency, low maintenance, and smart appearance. Light from the 40 W tubes is shielded by evenly spaced louvres. Individual reflectors, removable for easy maintenance, provide a reflecting surface for each tube. Reflecting surfaces are finished in "Plastox" white (86% Reflection factor).

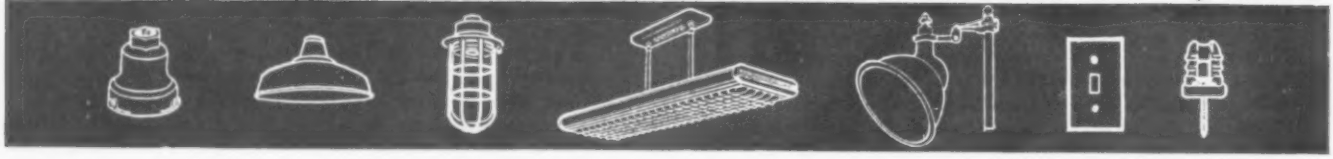
Starters can be replaced without disturbing either the tubes or the hinged louvres. Relamping is done from the top, on pendant-mounted units, and by swinging down the louvre on surface mounted units. Plastic side panels add to the appearance and utility of this fixture. Available with instant-start ballasts.

Write for your copy of the Candlepower Distribution Curve on Spero LVR-448.

Spero also manufactures REFLECTORS, FLOODLIGHTS, VAPOR-PROOF UNITS, and various MATERIALS FOR ELECTRICAL CONSTRUCTION. Write for Bulletin No. 10.

Look for another Spero advertisement on page 126

The SPERO ELECTRIC CORP. 18222 LANKEN AVE. CLEVELAND 19, OHIO



A Wholesaler Appraises The Fixture Market

By H. P. Litchfield
Assistant General Sales Manager
*Graybar Electric Company**

H. P. Litchfield

IF the estimate of 250 million dollars as a potential annual market for lighting fixtures is anywhere near correct, that is indeed a far cry from the meagre beginnings of the electric lighting industry, as described in John Winthrop Hammond's book "Men and Volts." The first Edison lamp in 1879, in which the filament was made of carbonized cotton thread, was the forerunner of a total of something over 300 different types of lamps reported to be turned out at present by the General Electric Company alone.

A production of 835 million lamps in 1945, contrasted with 168 million in 1921, inevitably builds a market for fixtures of some kind, demanding the earnest effort of every selling force in the industry to place better light and better sight at the disposal of the consuming public.

The cost of lighting which is said to have been reduced roughly 75 percent in 25 years, has contributed in no small way toward the achievement of higher lighting levels in the home, office and industry.

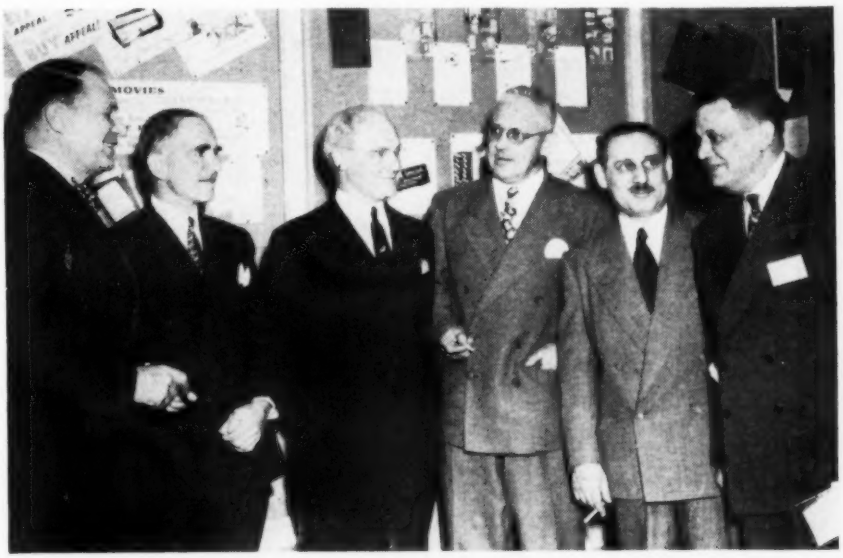
Improved lighting must be sold, and the commercial opportunity that is offered by present-day high quality light sources imposes responsibilities and obligations on every element in the industry.

Electrical wholesalers are doing their utmost to meet this challenge and, thanks to you who do the designing and manufacturing, we are free to concentrate on selling, which, after all, is the justification for our existence.

Lighting is the ultimate culmination of a large part of our industry efforts, but one of the first and most important essentials is to make sure that adequate wiring is available before the full bloom of electrical utility can be realized.

The lighting business accounts for about 27 percent of the total electrical supply volume in the United States and represents about one-third of the average wholesaler's total gross margin.

Last April in Chicago the 37th Annual Convention of the National



Among the 350 representatives who attended the meeting at Nela Park, Cleveland were: left to right, N. H. Boynton, general sales manager, GE Lampt Dept.; Chas. S. Shaughnessy, vice pres., R. H. Macy & Co.; R. R. Rav, exec. vice pres., Retail Furniture Assn.; Don Julien, secy. of Certified Lamp Mfrs.; Henry G. Feldman, chairman, CLM Advisory Committee, and E. D. Stryker of GE Lamp Dept. and chairman of the meetings.

"You asked for it!"

Here's what one utility executive looks for in fluorescent lighting fixtures:

(1) "We are interested in knowing that the fixture will give excellent service to the consumer. If we recommend a fixture, naturally, we want our customer who buys on our recommendation to be pleased with the product." (2) "And we want to know whether or not the fixture has built-in capacitors which will insure constant high power factor."

And here's why CERTIFIED FLEUR-O-LIERS give him what he wants:

(1) Fleur-O-Liers, made by a group of leading fluorescent fixture manufacturers, are built to exacting specifications, set up by lighting experts, for *performance, construction* and *service.* They are tested, checked and *certified* as meeting those specifications by Electrical Testing Laboratories, Inc., and identified by the Fleur-O-Lier label on every fixture. (2) Specifications for Certified Ballasts in Fleur-O-Liers require *power factor correction* . . . and assure reliable operation.

Through the Certified Fleur-O-Lier Program contractors and distributors, as well as utilities, can feel assured that their customers will get dependable, economical service and superlative lighting performance from fluorescent fixtures labelled "Certified Fleur-O-Lier".

FLEUR·O·LIER

Manufacturers

Fleur-O-Lier is not the name of an individual manufacturer, but of a group of 27 leading fixture manufacturers. Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements.

Electrical Wholesalers Association was held, when our own version of the NEMA Declaration of Electrical Interdependence and the Tenets of the Electrical Wholesaler were unanimously adopted.

These two fundamental industry documents call for recognition of unity of aims and interdependence within the industry, and the subsequent recruiting of industry employees and members of their families as volunteer "salesmen-educators."

We pledged consumers that electrical wholesale distributors will do their part to bring to the markets more products and better products at less money.

In our highly complex industry, which makes more than 300,000 different products and sells to all markets, the wholesaler stands in the key position, and it is realized that we must prepare for the future first of all with capable and well trained personnel.

A goodly number of our 800 association members have subscribed to a scientific personnel selection program. It includes aptitude testing, again emphasizing that we are fully conscious of the need for establishing a new high in personnel efficiency in all job categories throughout the entire field of electrical distribution.

The phenomenal growth of the electrical business to its present position took several generations, but in little more than one decade we find the lighting phase of the industry to have blossomed from a mere seed to a quarter billion dollar market.

That is why every electrical wholesaler worthy of the name is, or must become equipped with a department of efficient and capable technicians specializing in lighting problems and educating the general salesmen, as well as be prepared to carry adequate stocks when available, and to develop and maintain good display facilities.

Those responsible for new developments in lighting have been wise enough to give the public not only new and interesting sources but they are also lower priced and more efficient as well. Better illumination can only be accomplished by means of better equipment. The manufacturers have accepted the responsibility of developing and producing the necessary equipment to house, shield, and diffuse the new light sources, and it is gratifying to us wholesalers to have a part with you in the commercial aspect of the undertaking.

Looking at the proposition another way, if electrical wholesalers had just one job—that of promoting, marketing and merchandising lighting units—it would still be one of the biggest industries in the country. The splendid job manufacturers are doing in turning out fixtures will lose much of its effect unless the wholesaler serves his suppliers and has many customers simultaneously as the logical means of getting those products to the market. It is a specialty job and it is a big job, and the distributor or wholesaler stands ready to support the lamps and lighting manufacturers in this huge endeavor to relight America.

If, as some engineers have stated, because of later improvements fluorescent installations of five years ago should now be considered ready for replacement, that in itself is a tremendous and continuing prospect.

Despite the tremendous advance in better illumination, one still sees the need for better lighting in factories, offices, stores, and homes on every hand.

We look with pride at our figures showing our current lighting sales, but it is my judgment we still have an unbelievably large future in this field if we will but make ready to fully capitalize the possibilities.

Adding the new fluorescent light source as another string to our bow has given new impetus to the art, and if there is still doubt in anyone's mind as to the lively interest in this new horizon, he has only to notice the eager eyes and ears coming from every quarter of the country, and indeed the world, to explore this new wonder light.

Electrical wholesalers pledge to their customers, and to consumers in all walks of life sincere and earnest devotion to the promotion of better light and better sight as their part in relighting America.

**Excerpts from an address delivered recently before a National Group of Lighting Fixture Manufacturers at Nela Park, Cleveland.*

More than 350 representatives of leading lighting equipment manufacturers gathered at Nela Park, Cleveland to discuss design, production, distribution and sales problems.

Get Sales Circuits To Contractors Well "Grounded" For Future Gain

By Dave V. Chilver

Associated Wholesale Electric Co., Los Angeles, Cal.

As told to Henry W. Young

CONDITIONS in the electrical contracting field now are not normal.

In recent years the average contractor usually employed a buyer. In normal times, after things have leveled out, it is safe to assume that, as it was before the war, only the largest contractors will be apt to maintain such functionaries, and the purchasing will again be handled by one of the top men in the organization, frequently by the president or owner himself.

This top man undoubtedly already has certain acquaintances among the wholesalers' salesmen in whom he has complete confidence. Naturally, business will be thrown their way more or less automatically when he again takes the reins.

To the newer salesman, the suggestion is offered that now is the time for him to cultivate more than a speaking acquaintance with these top men at every opportunity and seek to promote confidence in himself and good will toward his house.

This should be done regardless of the fact that orders right now, as during the war, can be secured without very great effort directly from the purchasing man or department.

However, it is just as necessary as ever to create in the executive's mind the impression that "here is a trustworthy man who knows his stuff. I can use him sometime." When the details of buying again revert to him, he is going to turn to you if you lay the proper groundwork now.

Dave V. Chilver

That well-known function of the wholesale house, that, in effect, it acts as the purchasing department of the customer, is no idle talk. It is the truth.

It follows, then, that the salesman of the wholesaler who has the proper conception of his job will try constantly to know all his products, their sources, their good points and their limitations, so that he could, if the occasion arose, actually act as the purchasing agent for any of his customers.

If he packs that kind of knowledge, and gets to know the top flight men among his customers, he is bound eventually to get the signal to help, and by helping, sell.

Another thing which the younger salesman may not understand too well is this fact. At any given time, he may have as many customers as he can fully serve. But he *never* has yet called upon all the potential customers in his territory upon whom he should call.

The point is this. Say you have arrived at the stage where you have a certain number of big customers where you have earned complete confidence and are acting practically as their purchasing agent. Their business half keeps you.

Then, you have a long line of secondary customers who are giving you nice business. The result is that you feel you should hang out the "No Vacancy" sign and just concentrate on giving first-class service to those you have.

The salesman who reaches that conclusion is unsafe. He is unsafe simply because the unexpected can always happen. It may be that over-expansion or some other cause may affect the credit condition of a customer; the firm may move out of his territory; death or some other cause may disrupt an organization and a new crowd may take hold; or, just possibly, a competitive salesman may have shown something on the ball that he doesn't

Dave V. Chilver has been connected with the Associated Wholesale Electric Co. of Los Angeles since 1928. After working his way through the inside for two years he became outside salesman in 1930. From that time until about two years ago, when he was appointed sales manager, he went through all the possible stages of selling.

Starting as a cub, as he expresses it, he sold by virtue of a sublime ignorance which engendered so much curiosity on the part of a number of customers that they gave him orders so as to be able to study the reaction, on up to first flight salesman.

He said that he wished there were some way by which he could suggest to the younger generation of salesmen three or four fundamentals of selling, applying especially to the electrical contractor trade, that should be kept uppermost in mind these days.

"You know," he said, "that all during the war and in the reconversion period since, there has been so much confusion and excitement, and so many funny and unusually hard ways of doing business, that there has been little time for salesman drill on the fundamentals. Selling – the fighting kind – became almost extinct."

"So we have a crop of young salesmen coming on who are in what might be termed boot camp. They have been getting training of a sort, but they have never been in battle. The battle, the old competitive battle, which after all is mostly real fun and excitement, is coming very soon now.

"I couldn't give them a course of study complete in one lesson, but just the same there are a few things I wish I could point out if I could only get into a huddle with them."

Having expressed the wish, he got it, and here is his message.

have and has horned in with the customer.

The last can happen and, incidentally, it may be pointed out that it is never safe to underestimate the "enemy." Were any of these things to happen in the case of one or more of the salesman's key customers it would leave a gap in his business that would take a long time to fill up.

To guard against such contingencies, the salesman should have a reserve of eight or ten, or even more, good potential customers where he has been calling quite regularly making friends and laying the groundwork for future business. These calls are out of the regular line of routine calls. Under present market conditions, the salesman would not probably have any substantial amount of merchandise that he could let them have anyway. So he can go in there "relaxed," so to speak, not asking for or expecting an order.

His mission is to create good will toward his house and to make himself known and liked for his interest in the customer's operations, even if, for the time being, he can apparently be of no help as far as procurement of merchandise goes.

If this type of a call is conducted properly and the salesman is sincere in his wish to be known and liked, confidence can be built up that will carry over into the competitive era that is approaching.

On the occasion of these potential-customer calls, orders will no doubt be "offered" to the salesman in these times of scarcity. Learn to turn down in a diplomatic way by pointing out that you are not there hunting for business, because you have more calls now than you can satisfy from long-time customers of the house.

Especially is this attitude necessary in relation to so-called "thank you" orders offered by a grateful account for some slight service you might have rendered. Guard yourself against rapidly accepting them lest you get him to thinking of you as the fellow to call up just for some little thing that nobody else cares to bother with.

I am well aware that many a salesman has built up a good business on that very basis – on the theory that if you watch the little items and give 100 percent service on them the big orders will take care of themselves. But we are now speaking of the large, potential customer in a sellers market.

The time is not far off when the smart salesman must again watch for the opportunity to serve new customers. In the meantime what you *can* do for this potential customer, at least once in a while, is to introduce him to one of those special opportunities that occasionally crop up these days.

A worthwhile unit of merchandise, may conceivably become available for certain reasons – a buy of real importance. In such case, I can see no reason why it may not be conscientiously offered to one of the potentials. By so doing, you may not only gain the potential's gratitude at the moment but plant the thought in his mind that you are the fellow to contact when some service that is really big is needed.

Another important thing for the salesman to bear in mind is that service today is just as much his function as ever. His contractor customer is beset with more vexatious problems than he was ever confronted with before.

Aside from his regular construction problems, those of timing delivery of materials on the job and the economical handling of his crews have been multiplied many fold. Again, the salesman is in danger who, in this sellers market gets in the habit of looking at the immediate source of his order—the contractor's purchasing department—as the all-important factor.

Follow-through on the part of the salesman is more important than ever. These days, the salesman is not dealing in so much iron, copper, and steel but in what are veritably gold nuggets, so great is the demand and the necessity for his products.

It is necessary then that the follow-through be complete on them from the trucks at his warehouse door to the job where they are actually installed, and finally to the customers office where they are paid for. All have waited too long for these goods and they are of too much importance to have any slip-ups, shortages, diversions, or misunderstandings occur.

FEMCO Proudly Presents

The Aristocrat

For office, store or specialty shop, The Aristocrat adds a distinctive, pleasant note. Fitted with handsome silver finished ends, white enamel louvres and Corning Alba-Lite glass sides. The Aristocrat's four-40 watt tubes illuminate with supreme style and efficiency.

Hung individually or continuously by pendant, or flush with the ceiling, The Aristocrat blends with easy harmony into any place where distinctive lighting is desired.

The Smoothie

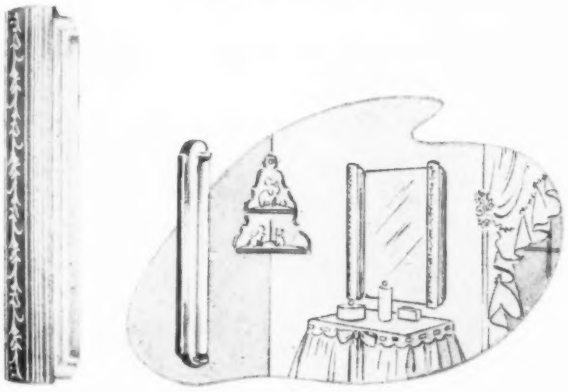
A departure in conventional fixture appearance—a kitchen unit has at last been constructed that offers the home dweller distinction as well as economy.

FEMCO designers and articifers have succeeded in constructing this fixture from one piece of metal formed by heavy presses from deep-drawn steel. The firm appearance, the built-in canopy, and the natural beauty of this item are among those features which identify it as a superior product.

The Stuart

Novel and distinctive, this graceful bracket is as beautiful as it is practical. Conventional construction methods have been discarded and more costly tool work substituted in order that this creation could be formed in one piece from deep drawn steel.

No welded parts, no harsh angular fittings to mar its streamlined contour. Compare this with other fluorescent brackets and see why this readily marketable item is acknowledged by users as being unique and unchallenged in the fluorescent field.



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